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THE UNIVERSITY OF ALBERTA

AN ANALYSIS OF PROFESSIONAL FARM BUSINESS MANAGEMENT TRAINING NEEDS AND PROGRAMS IN CANADA

by

(C) WILLIAM JOHN BROWN

A THESIS

SUBMITTED TO THE FACULTY OF GRAUDATE STUDIES AND RESEARCH

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THE UNIVERSITY OF ALBERTA

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The undersigned certify that they have read, and recommend to the Faculty of Graduate Studies, for acceptance, a thesis entitled "An Analysis of Professional Farm Business Management Training Needs and Programs in Canada" submitted by William J. Brown in partial fulfilment of the requirements for the degree of Master of Science.

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ABSTRACT

The increasing importance of farm business management (FBM) in Canada's agriculture has created a need to examine training requirements and programs for professional FBM counsellors. That is the primary purpose of this study. First, university graduate and undergraduate courses at the eight Canadian universities offering courses towards degrees in agriculture and inservice training programs at government FBM agencies were investigated and analyzed. Secondly, a sample of professionals working in FBM advisory roles across Canada were asked for their opinions on skill requirements, skill acquisition and training needs. The data were analyzed on a professional category, regional and length of service basis.

It was found that university training of these professionals provides an adequate base upon which the graduate can further specialize and expand. However, university training was not without its faults. Findings suggested over specialization at the undergraduate level and overemphasis of management tools a techniques instead of basic principles and concepts. Inservice training programs offered by the government FBM agencies do not meet their potential as training sources. In general the agencies offered short courses on specific subjects related to FBM where a comprehensive general FBM course was needed.

The professionals surveyed generally perceived their skill and training program needs to be the same no matter from what professional category, region of Canada or length of service grouping they came. They also felt that most of their skills were acquired on the job rather than from university or inservice training, however only 14% of the respondents

majored in agricultural economics while at university. In general, the respondents perceived that communicating, counselling and interviewing, farm record analysis, financial management and developing and evaluating alternative farm business plans were the most important areas in which skill and training programs were needed.

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CHAPTER I

INTRODUCTION

Background

Farm Business Management (FBM) is one of the newer agricultural sciences to emerge and develop across Canada. While the universities in Quebec, Ontario and Saskatchewan have had a FBM orientation in their agricultural economics programs for many years, those in other provinces have been of more recent origin. The last two decades have seen the almost universal development of FBM service and educational programs for practicing farmers across all of the provinces in Canada. During this period, all of the provincial extension agencies established FBM units in one form or another within their departments of agriculture, and began to offer various programs and services to farmers in order to improve their management ability.

The federal government has also found it expedient to support FBM education and extension through such programs as Canfarm, a joint federal provincial, university program of computerized record keeping and farm planning and the Small Farm Development Program (SFDP), a federal provincial agreement to provide financial and management assistance to marginal farmers. Furthermore, private agencies such as banks, farm supply companies and private consultants have entered the field of FBM advisory and counselling service. This increasing FBM activity is obviously based on the increasing needs of farm operators, who now face the growing problems of managing rapidly developing new technologies and sharply increased capital investments.

The Canada Farm Management Committee (CFMC) established in 1968,

serves the purpose of communication and coordination between universities, federal and provincial governments, and private agencies on FBM matters. The CFMC is one of the sixteen Canada committees representing various disciplines in the agriculture industry through the parent organization, the Canadian Agriculture Services Coordinating Committee (CASCC).

Over the past several years, the Extension-Education Sub-Committee of the CFMC has concerned itself with the status of university and inservice training of programs in FBM, and the training needs of FBM practitioners. The following projects have been undertaken by CFMC towards this end:

- Survey on the Present Status and Future Programs and Needs of Farm Management Extension in Canada. (1970)

- The setting up of a FBM counsellors' national training program using the DACUM approach to curriculum, learning and evaluation. (1973-75).[1]

- An Analysis of Professional FBM Training Needs and Programs in Canada (1976-77).

The last project noted above is the title of the present study. This project has been commissioned to the Department of Rural Economy of the University of Alberta (U of Alta) through the funding of the SFDP of the Canada Department of Agriculture and arises out of the national training program.

Objectives

1) to analyze and describe the adequacy of university undergraduate and graduate training and government inservice training for

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[1] The DACUM approach is also used in this study and is discussed in Chapter II.

professionals working in the area of FBM counselling in Canada and to make recommendations for improvements.

2) to discover what skills are needed and used by professionals working in the area of FBM counselling in Canada.

Orientation of the Subject of Farm Business Management

Farm Business Management Defined

Farm business management is making decisions that affect the farm business, while keeping one's goals and objectives in mind. Many authors on FBM provide slightly different definitions which mean essentially the same. Two key points in the above definition are; the making of decisions; and the types of management decisions to be made. The decision making process is usually described as a series of sequentially related steps. Herbst, one such writer, uses a six step sequence as follows:

> 1) Define the problem; 2) Get ideas, make observations, and list major alternatives; 3) Analyze alternatives and determine probable outcome; 4) Decide which alternative to select; 5) Act on the decision once it has been made; and 6) Bear the responsibility of the outcome.[1]

Herbst also lists several types of management decisions to be made. They are as follows:

> 1) What to produce; 2) How much to produce; 3) The kinds and amounts of resources to use; 4) The technology to use; 5) When and where to sell and buy; and 6) How to finance the operation.[2]

---

[1] J.H. Herbst, Farm Management Principles, Budgets, Plans, rev. 1970, 1974, (Champaign, Illinois; Stipes Publishing Co., 1968), p.2.

[2] Ibid., p.1.

Making decisions of the above type constitutes a major part of FBM and thereby includes many other sciences than economics. It should also be remembered that these decisions are affected by the goals and objectives of the individual and his or her family.

Farm business management counselling is essentially FBM extension and consists of working with farmers and advising them on the many aspects of FBM. Ideally the FBM counsellor must know all the skills needed by farmers, plus those skills needed to communicate with individual farmers and groups of farmers. In addition he must have the skills to assist in carrying out programs to further educate farmers. The FBM counsellor must know these skills well enough to handle many different situations and to deal with many different types of people. It is these skills and the training received to acquire these skills that will be investigated in this study.

A Brief History of Farm Business Management

Farm Business Management is a relatively new expression, having gradually replaced the term farm management. Farm management has been known as long as the earliest forms of agriculture. The food supply, both animal and vegetable, had to be managed in some form from the beginning for human survival. Undoubtedly there has been much mismanagement of the food supply in the past. It follows, that when one technique was found to work, generations adopted it because experimentation could mean starvation. This factor is a contributing cause to the relatively slow development of agriculture and farm management to this day.

The first writers of agriculture and farm management probably did not appear until the Greek and Roman eras, although agriculture was

undoubtedly mentioned in earlier times. Scholars such as Cato, Varro, Columella, Petrus Crescentius, Walter of Henlay, Fitzeherbert and many others all wrote about agriculture in the Roman and medieval eras.[1] Although they did not specifically mention farm management they implied it by relating the cultural practices of their time. Cato mentions that the farmer's business, "was to sell the maximum and buy the minimum", a definition that may still apply today.[2] The rotation of crops and the domestication of animals were the first significant signs of more modern farm management, and are described by N.S.B. Gras in "A History of Agriculture in Europe and America".

G.F. Warren of Cornell University was an early leader in the development of farm management since the turn of this century. His book published in 1917, "Farm Management", states that, "farm management is the study of the business principles in farming...".[3] He states that in order to find out what the best method of farm organization and management is, one must first gather together a sample of successful farms and study their organization, management and cultural practices. In order to become successful, Warren argues, other farmers must practice these tactics. The major part of his book deals with the cultural practices including the more physical and technical aspects of livestock and crop management, crop selection and rotation, livestock husbandry, farm selection, marketing, and other aspects of farming in general. Warren

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[1] Norman S.B. Gras, A History of Agriculture in Europe and America, 2nd ed. (New York: Crofts & Co., 1940), pp. 32, 33, 49, 56, 59, 62, 63, 467.

[2] Ibid., p. 33.

[3] G.F. Warren, Farm Management (New York: Macmillan Co., 1917), p. v.

uses budgets and other financial tools but does not refer to the economic principles of farm management as they are known today.

The last fifty years has seen the introduction of the principles of production economics into the field of FBM. These economic principles endeavour to point out various relationships between inputs used on the products produced by the farm, as well as economic relationships between combinations of inputs and combinations of products. Given specific assumptions, where other factors that will influence the economic relationships are held constant, these principles can be used to predict where profits will be maximized. These economic principles along with Warren's "business principles", that is the utilization of budgets, comparative analysis and cost accounting procedures, combine together to form the new FBM. The new FBM uses economic principles to explain the underlying relationships between inputs and products, and management tools such as those mentioned above to explain the effect of these economic relationships on the profitability of the farm business. The field of FBM has also acquired the use of the computer in recent years, thus making it easier to analyze various alternatives, as well as recording and analyzing increased amounts of data. Much of this new FBM has not been adapted for use in FBM extension. This problem must be overcome if the new FBM is to be truly effective as a form of extension.

The 'Science' of Farm Business Management

Farm business management is considered by some authors to be both a pure and an applied science, similar to engineering, medicine and agronomy. Black et. al. state that it has the basic characteristics of an applied science; 1) it has its own principles that are not inconsistant with those of the basic sciences, and 2) it draws these basic prin-

ciples from more than one science.[1] W.Y. Yang in "Methods of Farm Management Investigations" states that:

> Farm management is both a pure and an applied science. It is a pure science because it deals with the collection, analysis and explanation of facts and the discovery of principles; it is an applied science because the ascertainment and solution of farm problems are within its scope.[2]

D.B. Williams in "Agricultural Extension: Farm Extension Service in Australia, Britain and the United States of America" suggests that FBM as it pertains to production economics is a pure science whereas FBM as it pertains to extension and solving problems on farms is an applied science.[3]

Other writers suggest that FBM still has many of the characteristics of an art. Black et. al., sum this arguement as follows:

> Primitive agriculture was all art. It continued to be until science had built a foundation for agricultural practice. The early books on agriculture consisted of nothing but a set of rules as to how the land should be tilled, and when and how the crops should be planted, and the like. These rules had little scientific basis. A surprising number of them have since been proved to be scientifically correct, but the reasons for them were not understood at the time... Even today, however, many things in agriculture are done as they are because we learned to do them that way from our predecessors and they seem to obtain results.[4]

Many farmers still view farming and FBM in the above mentioned context. Therefore people working in FBM and particularly FBM extension must be

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[1] John D. Black, et. al., Farm Management (New York: Macmillan Co., 1947), pp. 14-15.

[2] W.Y. Yang, Methods of Farm Management Investigations for Improving Farm Productivity, rev. ed. (Rome: Food and Agriculture Organization of the United Nations, 1965), p. 2.

[3] D.B. Williams, Agricultural Extension: Farm Extension Services in Australia, Britain and the United States of America (Carlton: Melbourne University Press, 1968, pp. 157-178.

[4] Black, et. al., Farm Management, pp. 13-14.

aware of this attitude and be prepared to fit the scientific rules into the art of farming. While FBM appears to be both a science and an art, it is obviously moving toward the scientific end of the spectrum as the profession and its related body of theory develops.

The Development of Farm Management into Farm Business Management

Managing a farm is becoming more complex every year. Farms traditionally consumed much of what they produced, as was the case on many farms in Canada until relatively recent times. Farming was essentially a way of life not a business. Canadian farms are becoming fewer in number and larger in size, thus adding to the amount of resources that have to be managed by the individual farmer. Canadian farms are also increasing in investment levels and mechanization. These statistics are presented in Table 1 which illustrates that today's farmer must be a better manager, and that farming is becoming more of a business.

The change in farming from a way of life into a business is not a uniform, complete transformation on all farms, nor should it necessarily be. However, it does represent a significant change and therefore requires a reorientation of thought when studying how farmers should manage their farms. D.B. Williams discusses three components of farm management that have contributed to its evolution over the years. The first is "technical management" which involves decisions on the use of farm labour and materials but does not include their economic component. The second is "financial management" which "includes the use of records, budgeting, access to credit, financing of buying and selling operations, taxation and estate management. This is the traditional point of departure from technical problems of management...". The third and final component is

TABLE 1

SELECTED CANADIAN AGRICULTURAL STATISTICS, 1901 - 1971

Year	1901	1911	1921	1931	1941	1951	1961	1971
Number of Farms	511073	682329	711090	728623	732832	623091	480903	366128
Average Area per Farm	124	160	198	224	237	279	359	463
Average Capital Value...	3497	6202	9218	7202	5788	15200	27389	65736
Value of Mach. and Equip.	213	377	935	893	813	3103	5341	10677

Source: 1921-1971; Statistics Canada, Agriculture, 1971 Census of Canada. cat. no. 96-701, vol. 4, part 1, Bulletin 4.1-1 (Ottawa: Queen's Printers, 1973), pp. 2-1, 2-2.
1901-1911; Dominion Bureau of Statistics, Agriculture, Ninth Census of Canada 1951, vol. 6, part 1 (Ottawa: Queen's Printers, 1953), pp. 1-1, 1-2.

"whole-farm management" which "means the integration of all farm resources, involving choices about the allocation of land, labour and capital between alternative competing uses. Each individual decision and operation is considered in relation to its effect on the farm performance as a whole and how a change will affect the use of different farm resources."[1] Williams goes on to say that the agricultural economics profession adopted the whole-farm approach and added economic theory as a major part. Farm management has therefore evolved from technical management on the one hand and financial management on the other into a whole-farm approach using economic

[1] Williams, Agricultural Extension: Farm Management Extension Services..., pp. 157-158.

principles as well as other tools.[1] This evolution has accompanied the change of farming from a way of life into largely a business. It naturally follows that farm management should now more appropriately be called FBM in order to properly assess what is needed in the way of management of today's farms.

A Brief History of Farm Business Management Extension

A history of FBM extension would not be complete without reference to the United States of America. The Land-Grant College system with its cooperative Extension Service has been the world forerunner in agricultural extension. The Land-Grant Colleges were established under the Morrill Act of 1862 and represented the first meaningful and successful attempt to teach agriculture at the university level. Formal extension did not begin on a concerted basis until 1914 with the passing of the Smith-Lever Act. This established the Cooperative Extension Service which is a cooperative organization developed and organized by the county, state and federal governments as well as the Land-Grant Colleges. The United States Department of Agriculture established the office of Farm Management in 1906, thus making farm management extension an integral part of the extension service from the beginning. At this time, FBM extension was essentially made up of comparative analysis, cost accounting studies and budgeting.

The development of FBM extension in Canada has differed from that of the U.S. Canada does not have a Land-Grant College system or a Cooperative Extension Service. Agricultural colleges and universities offering courses towards degrees in agriculture developed independently and have never been formally responsible to agricultural extension. The

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[1] Ibid.

Canadian Constitution stipulates that extension education is the responsibility of the provinces. Therefore the federal government, that is the Canada Department of Agriculture, has not been responsible for extension. The provinces established their own departments of agriculture, as vehicles of extension education, upon entering confederation.

Formal extension was not started until after the turn of the century. Ontario and Quebec were the first provinces to have agricultural professionals involved in extension. These early "District Agriculturists" or "Agricultural Representatives" were generalists covering the entire spectrum of agriculture. It soon became apparent in each province that subject matter specialists were needed as agriculture became more scientific and specialized. Farm business management was no exception and the first "Farm Management Specialists" were appointed in the late 1930's, 40's and 50's.

Farm record keeping systems have constituted the major part of FBM extension. Each province or region of Canada has had its own farm account book ranging from a simple cash accounting system to a detailed accrual accounting system. The province of Quebec among others, by the late 1960's had computerized farm record keeping and group analysis systems for their farmers. In 1968 Canfarm, a federal, provincial and university program of computerized farm record keeping became available to all farmers in Canada. Now Canfarm is on its third version of record keeping, the first two having had questionable success, as well as expanding into computerized farm planning packages for use on farms. Farm business management extension in Canada has also experienced; 1) the formation of farm management clubs, where farmers get together to discuss farm management problems; 2) the formation of farm syndicates in which

participating farmers hire a professional FBM consultant to assist them with FBM problems; and 3) the development of Consensus Research Data (CRD) studies and similar forms of cost of production data to be used as benchmark figures.

There are several regional and national programs or organizations that are influences on FBM extension. The most influencial national program at present is Canfarm. All the provinces participate and use it as a major part of their FBM extension. The Prairie Farm Rehabilitation Act (PFRA) of the 1930's, was an early example of these programs followed in the 1960's by the Agricultural Rehabilitation and Development Act (ARDA). Both of these programs were primarily aimed at the smaller less developed farms. The Small Farm Development Program (SFDP) of the 1970's, a federal-provincial program, is also aimed at assisting the smaller farmers, particularly from the management counselling viewpoint.

The CFMC formed in 1968 is another major influencer of FBM extension in Canada. The CFMC is made up of representatives from the Canada Department of Agriculture, the Farm Credit Corporation (FCC), Statistics Canada, the Canadian Federation of Agriculture, provincial departments of agriculture and universities offering courses towards degrees in agriculture. The CFMC has several responsibilities in FBM among them:

> ...is the identification and assessment of problems arising in the provision of governmental and institutional farm management services. These services include extension, research, teaching, training and information. The committee also has the responsibility for suggesting and analyzing alternative solutions to problems in any of these area.[1]

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[1] I.L. Corbridge and T.A. Petersen, "Farm Business Management Training Program," Canadian Farm Economics II (April 1976), p. 27.

There are other organizations that influence FBM extension in Canada, but these are the main ones.

Increased communication, cooperation, and coordination between the provincial governments, the federal government and the universities would enrich FBM extension in Canada. However, there has been little cooperation between these organizations, except on an informal individual basis. Federal employees generally do not get involved in extension, although the Canfarm and SFDP programs in recent years have been partial exceptions. Universities are also not directly involved in agriculture extension, except on a special contract basis. The provincial departments of agriculture have therefore been left to do the job with very little assistance.

CHAPTER II

A REVIEW OF RELATED LITERATURE

The purpose of this chapter is to review literature relevant to the skill needs and training programs for professionals working in the area of FBM counselling. The chapter is divided into several sections, each dealing with one or more of the vital components of FBM skill needs and training programs. The first section investigates training needs perceived by agricultural extension workers themselves, while the second section deals with the more specific skill needs in FBM counselling. The third section covers the topic of actual training programs at universities, and the fourth section covers inservice training at government agencies. In the fifth and final section, the DACUM and CAP approaches to competency based occupational training are described and compared as to their applicability in investigating training needs.[1]

Perceived Training Needs of Agricultural Extension Workers

Considerable material has been written on the perceived training needs of agricultural extension workers. It is not the purpose here to provide a comprehensive review, but to make conclusions from a representative sample of the literature.

"Agricultural Extension Training Needs in Alberta" by L.W. Rasmusson and "Training Needs Felt by County Agricultural Agents in Quebec" by A. Bouchard both discovered that agricultural extension workers

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[1] DACUM and CAP are two types of competency based occupational training systems. Essentially they entail breaking the occupation in question down into the individual skills needed to perform that occupation. Training materials are then prepared for those individual skills.

wanted more training in extension and education principles and techniques and less in subject matter areas. The Bouchard study refined the categories further and found that, "program planning, psychological and educational principles, and performance of educational activities" were wanted the most and in that order.[1] Rasmusson discovered that the two individual items in which training was wanted the most were, "agricultural economics and farm management and the management process."[2] It appears that principles of extension education and FBM extension are perceived to be important training needs by agricultural extenstion workers.

Skill Needs in Farm Business Management Extension

Farm business management extension is becoming an increasingly important part of agricultural extension. Several authors describing the future of agricultural extension stress this fact. The Organization for Economic Co-operation and Development (OECD) publication, "Advisory Work in Farm Management" states that the two main purposes for farm management advice are; 1) "to teach farmers to consider and manage their farms as a business," and 2) "to orientate agricultural advisory activities".[3] The publication also lists the qualities needed in a farm management advisory worker. These qualities are; 1) "competence" in economics and the complex techniques of farm management as well as program

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[1] Andre Bouchard, "Training Needs Felt by County Agricultural Agents in Quebec," Proceedings of the Canadian Society of Rural Extension Ninth Annual Meeting and Convention (n.p., December, 1968), p.36.

[2] L.W. Rasmusson, "Agricultural Extension Training Needs in Alberta" (A Summary of Master's Thesis, Colorado State University, 1960), p.3.

[3] Advisory Work in Farm Management, Documentation in Agriculture and Food No. 77 (Paris: Organization for Economic Co-operation and Development, 1966), p.40.

planning; 2) "ability to win the farmer's confidence"; 3) "discretion and tact"; 4) "teaching ability"; 5) "a sense of responsibility"; 6) "team spirit", in order to work with other extension personnel; 7) "authority", in drawing up FBM advisory programs; 8) "organizing ability", for a wide variety of tasks; and 9) "physical fitness", for the heavey workload.[1] The above "qualities" do not delineate specific skills needed, however they do indicate the scope of the job of the FBM extension worker.

Three studies that deal with roles, skills, and/or training needs of persons working in FBM extension follow below. (It should be emphasized that FBM counselling and FBM extension are considered synonomous terms in this study because the skills needed in the two are essentially the same). The first and second of these studies are similar to parts of the present study because they investigate how much time FBM extension specialists spend on the various aspects of FBM extension, that is, their skill needs. The second study as well as the third investigate training needs of those involved in FBM extension.

The Role of the Farm Business Management Consultant[2]

R.F. Heard, a regional farm management extension specialist for the Ontario Ministry of Agriculture and Food (OMAF), related in a paper entitled, "The Role of the Farm Business Management Consultant", how he sees his role. He states that the majority of his farm consul-

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[1] Ibid., pp. 107-108.

[2] FBM Consultant is the OMAF title for a professional who works with farmers and other OMAF staff in aspects of FBM. Essentially this professional uses many of the skills that are a part of FBM extension and outlined in the DACUM chart for FBM counselling.

tations for a four year period in the mid 1960's dealt with, credit, finance, insurance and money management, business agreements, estate planning, and partnerships - incorporations respectively. The nature of the consultations then ranged in decreasing frequency as follows; "budgeting and farm planning including land acquisition", "economics of machinery, buildings, crops, livestock, etc.", "farm records and analysis", "outlook trends, etc.", and "miscellaneous".[1] Heard's rating of the frequency of the types of consultations is definately influenced by the administrative organization of the OMAF and does not necessarily reflect the true picture of skills needed in FBM counselling. Heard reinforces this by stating that the members of the county staff do most of the consultations and that this "screening" process may have taken away many of the farmers' queries in various areas.[2] The following study attempts to avoid this screening process and asks FBM extension specialists to specify with what programs they are involved.

Survey on the Present Status and Future Programs and Needs of Farm Management Extension in Canada[3]

This study was concerned with determining the number of man equivalents both professional and technical devoted to farm management extension by government, agribusiness, consultants, and universities

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[1] R.F. Heard, "The Role of the Farm Business Management Consultant," in Proceedings of the Canadian Society of Rural Extension Ninth Annual Meeting and Convention (n.p., December, 1968), p. 81.

[2] Ibid.,

[3] Farm Management Extension Sub-Committee of the Canadian Farm Management Committee, "Survey on Present Status and Future Programs and Needs," n.p., 1970 (Typewritten).

It also investigated the percentage of time spent on each of the following; account books, budgeting, linear programming, credit and farm finance, farm business arrangements, estate planning, and farm management principles. Finally, the study asked respondents for their comments on; future programs they would like to see established, needed staff training, and nationally and regionally developed projects that might be of assistance.[1] It began by defining farm management extension as; "work directly related to assisting farmers in making management decisions".[2] The above definition coincides closely with the definition of FBM counselling used in this study.[3]

There are several results of this study that are important to the present study. First, it found that the majority of professional man equivalents working in farm management extension were employed by the various government departments and agencies (229 of 244).[4] This is a significant factor since the present study will only survey government departments and agencies.[5] Secondly, the study asked respondents to indicate what they spent their time on, and found, in order of importance, account books, credit and farm finance, budgeting, and farm business arrangements were the largest time users.[6] Thirdly, the study discovered that respondents wanted to see future changes such as; a manage-

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[1] Ibid., p. 4.

[2] Ibid., p.1.

[3] See definition on pp. 3-4 and in Appendix C.

[4] Farm Management Extension Sub-Committee, "Survey on Present Status..." p. 2.

[5] To be explained in Chapter III.

[6] Farm Management Extension Sub-Committee, "Survey on Present Status..." p. 2.

ment education program built around Canfarm or a similar accounting and analysis system when it is perfected; upgrading inservice training courses for technical and professional staff; a shift from the emphasis on accounting and analysis to budgeting; greatly expanded inservice training; more use of trained technicians to perform routine accounting and analysis tasks; expansion of teaching aids; more training in the handling of risk and uncertainty and market outlook; a graduate program in farm management extension suitable for professional farm management staff; and national and/or regional types of programs such as regional summer schools, in farm management and extension methods for professional farm management staff. In summary, the responses in this study illustrated the felt need for further training in FBM and extension by those who are working in the area.

Report on Farm Business Management Counselling[1]

The report on FBM counselling has also influenced the present study. It surveyed FBM specialists and asked them in what skills they were competent, and what uses they would have for training materials based on these skills. The study also considered "the steps involved and the resources required in further developing a coordinated farm management training program."[2] Use was made of the DACUM chart for FBM counselling as a basis to ask repondents about their training needs.[3]

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[1] I.L. Corbridge, "Farm Business Management Counselling", Report to the Extension-Education Sub-Committee of the Canadian Farm Management Committee, n.p., 1975. (Mimeographed).

[2] Correspondence, I.L. Corbridge to P. Wright, 10 February 1975.

[3] The DACUM Chart for FBM Counselling can be seen in Appendix A. The DACUM process will be explained later in this chapter.

The DACUM Chart for FBM Counselling presents all the skills needed in all aspects of FBM counselling excluding administrative skills, that is, those required to run an office. The chart includes eleven general "Competency Areas" which in turn are subdivided into anywhere from ten to eighteen individual skills that are needed in that area.[1] The Chart is a product of the DACUM approach to curriculum development. It was produced at Holland College, P.E.I. in August 1974 by the Chart Committee of the Extension-Education Sub-Committee of the Canadian Farm Management Committee.[2]

The responses of the report on FBM counselling are summarized in Table 2.

TABLE 2

RESPONSES TO THE REPORT ON FARM BUSINESS MANAGEMENT COUNSELLING

Competency Area	Summary of Responses
A. (Communicate, Counsel, and Interview).....	It is likely that there are unconscious incompetencies in this section that have not surfaced. As reported, however, there is interest only in (1) creating a receptive atmosphere, (2) establishing rapport with clients, and (3) identifying needs etc. of clients.

[1] See Appendix A.

[2] The Chart Committee consisted of:
Phil Wright, University of Guelph; T.A. (Alf) Petersen, University of Alberta; John Hickie, Saskatchewan Department of Agriculture; Bruce McCorquodale, Ontario Ministry of Agriculture and Food; R.H. (Bob) Simmerman, Leadership and Training Specialist, Alberta; Alexander (Sandy) Lauder, Regional Farm Economist, Alberta; Rollie Hayman, Farm Management Specialist, Nova Scotia; Adrien Van Ekris, Representative Farmer, Ontario; Fred Mooney, Canfarm, Quelph; Lawrence E. Coffin, Discussion Leader, Holland College, P.E.I.; Ivan L. Corbridge, Coordinator, Farm Management Training Programs, S.F.D.P., Ottawa.

TABLE 2 (con't)

Competency Area	Summary of Responses
B. (Plan, Implement and Evaluate Farm Management Training and Extension Programs).....	Although there is considerable need for help there is little call for it.
C. (Assist in Establishing Maintaining and Utilizing Farm Records).....	All groups are interested, particularly in those skills relating to financial records and their uses.
D. (Obtain and Manage Physical Resources.....	This is an area of both need and likely use.
E. (Advise on Financial Mangement).....	This is also an area of need and likely use.
F. (Develop and Evaluate Alternative Farm Business Plans).....	This, too, should be included in training plans.
G. (Advise on Management Implications of Laws and Legislation Affecting Farmers).....	There is wide spread interest for personal study but almost no expectation of using in training others.
H. (Advise on Marketing Strategy).....	It can be concluded that there is considerable interest for personal improvement in this subject area but not for use in training others. Particular interest was manifest for market trends and outlook and for a better understanding of the futures market.
I. (Advise on Estate Planning and Business Arrangements).....	This section had a consensus of interest both for personal improvement and in working with others.
J. (Inform and Advise on Concepts of Personnel Management).....	This was conceived by most as pertaining to managing office personnel. Since most respondents had but little responsibility in this area, there was little interest shown. As intended by the chart committee, however, the concern was with a business firm large enough to have employees contributing significant input into the success or failure of the farm business. The responses shown likely do not reflect the intent of the chart committee for this skill section.

TABLE 2 (con't)

Competency Area	Summary of Responses
K. (Inform and Advise on Business Management Concepts and Processes...	The skills in this section are scattered throughout the preliminary outline. They were explicitly set forth in this final outline. Only the skill chart committee had opportunity to respond to the final outline; all of them included these skills in their selected list for preparation.

Source: I.L. Corbridge, "Farm Business Management Counselling," Report to the Extension-Education Sub-Committee of the Canadian Farm Management Committee, n.p., 1975. (Mimeographed). pp. 19-20.

Farm Business Management Training Program at the University Level

Considerable material has been written on agricultural education at the university level. The material referred to in this section is only a representative sample of this literature. Agricultural education, agricultural economics education, FBM education and agricultural extension education are examined briefly in the following paragraphs. The emphasis is on what should in included in the various curricula.

Agricultural Education

The literature reviewed generally concludes that the first university degree in agriculture should include the basic underlying principles of all the sciences contributing to agriculture. This should provide the student with the ability to approach problems in a comprehensive and integrated manner. J.A.F. Rook in his article "Higher Education in Agriculture" states that technical - vocational training has no place in a university because; first, it is not the nature or function of the univer-

sity to do so and secondly, the information load is too comprehensive for a person to learn.[1] Rook further recommends that post-graduate courses should include teaching in the technical skills required for various professional occupations.[2] R.N. Farquahar in "Agricultural Education in Australia" concurs with the same recommendation.[3] This post-graduate training could be interpreted as either inservice training within the employing organizations or university graduate training. In summation, technical skills should not be taught at the university undergraduate level, other than to the awareness stage.

Agricultural Economics Education

The overall conclusion of the literature reviewed on agricultural economics education is similar to that of general agricultural education. W.H. Nicholls in his article "Higher Education and Agricultural Economics: A Critical Appraisal" suggests that the agricultural colleges and universities in the United States at the time, over emphasized the practical and applied technical knowledge and under emphasized the more liberal approach to education.[4] He goes on to say that agriculture students, both freshmen and seniors, rated very low compared to other university

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[1] J.A.F. Rook, "Higher Education in Agriculture," Agricultural Progress 48 (1973): 86.

[2] Ibid., p. 90.

[3] R.N. Farquahar, Agricultural Education in Australia, with a Foreward by W.C. Radford (Hawthorn: Australian Counsel of Educational Research, 1966), p. 158.

[4] William H. Nicholls, "Higher Education and Agricultural Economics: A Critical Appraisal," Journal of Farm Economics 42 (December 1960): 975.

students in tests done to rate their general knowledge.[1] In order to remedy this situation Nicholls suggests that agricultural universities and agricultural economics departments in particular, do the following: 1) reduce the number of specialized courses and increase the concentration on principles and theory, for example one basic course in agricultural marketing instead of a whole group of commodity oriented courses in livestock marketing, milk marketing, grain marketing, etc.; 2) enable agricultural economics majors to elect minors in other non agriculture subjects, for example a farm management major may be assisted more upon graduation if his minor is in sociology or psychology; and 3) the cirriculum should leave 30 - 40% of the course load open to electives.[2]

J. Sjo et al. in an article entitled "Undergraduate Program Revision at Kansas State Univeristy" discuss what a cirriculum in agricultural economics should accomplish:

1) Provide the basis for a general educational experience that encourages the student:
   a) To develop an understanding and an appreciation of his environment through study of the sciences-- physical, biological, behavioral - and the humanities.
   b) To develop an understanding of how values and value systems develop and change.
   c) To develop a desire for, and skills to, pursue individual independent study.
   d) To develop analytical skills through study of mathematics, logic, and research methods.
   e) To develop communication skills by studying and practicing writing and speaking.
2) Provide the basis for professional training that encourages the student:
   a) To develop a desire and ambition to excel in his profession and to understand the requirements and rewards expected in the profession.

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[1] Ibid., p. 972.

[2] Ibid., pp. 978-979.

b) To develop competence as an agricultural economist able to identify economic problems, to analyze relevant information, and to propose solutions for economic and social problems.
c) To develop analytical skills that will be useful for a professional lifetime. (Each student must be provided with a basis for his top professional performance two or three decaces after graduation.)[1]

T.W. Manning in his article, "Graduate Education in Agricultural Economics" goes into further detail about what the undergraduate, Master's, and Ph.D. programs should include. He echoes Nicholls concern about too much specialization in the undergraduate and Master's programs.[2] The Manning article then describes what should be the desirable undergraduate, Master's, and Ph.D. curricula:

> The undergraduate training should include substantial preparation in general economics, agricultural economics, other social sciences, mathematics, statistics, humanities, biological sciences, and agricultural sciences...
> The Master's program should not be overly specialized, but it should develop the students understanding of economic theory, his special field, supporting subjects, and analytical tools...
> The student should be expected to achieve a high level of competence in at least four and perferably five fields, including the special field, a supporting field, macroeconomics, microeconomics, and analytical tools...[3]

All of the above authors agree that the basic theory and principles of agricultural economics should be covered at the university level. The practical application of these principles would then have to be taught either by the employing organization or in post-graduate courses special-

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[1] John Sjo, Frank Orazen, and Arlo Biere, "Undergraduate Program Revision at Kansas State University," American Journal of Agricultural Economics 55 (November 1973): 606-607.

[2] Travis W. Manning, "Graduate Education in Agricultural Economics," Canadian Journal of Agricultural Economics 14 (July 1966): 12-14.

[3] Ibid.

izing in specific areas.

Farm Business Management Education

The case of FBM education is slightly different from the previous two categories. Farm business management consists of principles and concepts as well as important and basic tools and techniques that have to be taught in order to fully comprehend the subject. The literature suggests that the use of these tools and techniques in making decisions, not their fabrication, should be emphasized at the university level. That is to say, the awareness and principle levels of these tools and techniques should be taught. Graduates from FBM courses should therefore be able to attack FBM problems in a comprehensive and integrated manner.

M. Boehlje et.al. in their article, "An Approach to Farm Management Education" state the objective of FBM education is to teach, "the student to integrate concepts and information from the biological, physical, and social sciences in making decisions and to apply decision making procedures to the problem of organizing and operating a farm business".[1] They discuss three computerized tools; a management game, a budget generator, and L.P.-Farm (a linear programming model). These tools can be used to emphasize business management concepts and how they apply to FBM. It is important to note that Boehlje et.al. do not advocate the teaching of how these tools are made, but how they can be used to teach principles.

H.T.M. Colwell in his article entitled, "Business Games and the Teaching of Farm Management in Great Britain" states that FBM education

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[1] Michael Boehlje, Vernon Eidman, and Odell Walker, "An Approach to Farm Management Education," American Journal of Agricultural Economics 55 (May 1973): 192.

should include, "the development of an analytical, critical and creative attitude of mind suitable for the process of management..." and "the understanding of theory and application of relevant farm management techniques...".[1] He further adds that farm management course content should be influenced by the, "age, ability, experience, job potential, and previous farm management knowledge of the students".[2] Both Boehlje et.al. and Colwell emphasize decision making and the use of basic management principles, tools, and techniques as important aspects of FBM education.

Agricultural Extension Education

Authors writing on agricultural extension education at the university level have come to the same conclusions as those writing on agricultural, agricultural economics, and FBM education. Their views are condensed in a paper by C.M. Williams entitled, "A Curriculum for Animal Extension Specialists". Initially Williams states that all agrologists no matter what their specialty will one day be involved in extension. Their curriculum should therefore be made up of the following points; 1) "a thorough grounding in the natural sciences (physical and biological)"; 2) "undergraduates being trained for responsibilites in extension require study of group organization, administration, and educational philosophy..." but not to the detriment of the natural sciences; 3) "sufficient exposure to the humanitites is required for the agricultural

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[1] H.T.M. Colwell, "Business Games and the Teaching of Farm Management in Great Britain," Agricultural Progress 48 (1973): 135-136.

[2] Ibid.

graduate to ensure that he is in fact an intellectual man and capable of communicating effectively"; 4) "specialization at the undergraduate level must be held in check to allow for sufficient breadth and flexibility in the curriculum".[1] Williams further states that specialization and therefore the more applied courses, even in extension, should occur either in inservice or post-graduate training programs. Although there is a great deal to be gained from applied courses at the undergraduate level, the information required is too intense for a person to learn, as well as the underlying principles.[2]

G.R. Purnell in his 1966 paper entitled, "Extension Economics--The Next Ten Years" states:

> The day is here when extension economists should all have master's of science degrees and within a very few years a doctorate will be sought as a means of qualifying to effectively deal with agricultural problems of an economic nature.[3]

In essence he says that extension economists will need post-graduate training as well as their first university degrees. Purnell interprets this post-graduate training to be further university education and his statement will probably apply to general agricultural extension workers in the years to come.[4]

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[1] C.M. Williams, "A Curriculum for Animal Extension Specialists," in Proceedings of the Canadian Society of Rural Extension Seventh Annual Meeting and Convention. Theme: Meeting the Needs of the Rural Community (n.p., March, 1967), p. 55.

[2] Ibid.

[3] G.R. Purnell, "Extension Economics--The Next Ten Years," in Proceedings of the Canadian Society of Rural Extension Seventh Annual Meeting and Convention. Theme: Meeting the Needs of the Rural Community (n.p., March, 1967), p. 62.

[4] There is nothing stopping a fair percentage of this post-graduate education coming in the form of inservice training by the employing organizations.

Farm Business Management Inservice Training at Government Agencies

All of the authors cited in the section on university level FBM training concluded that the basic theory and principles should be covered in the university undergraduate program and that the practical application of these principles or further specialization in the theory should appear in post-graduate courses. These post-graduate courses, as stated above, can be either university or inservice training courses. It appears to be logical that in most cases government agencies would be more interested in teaching the practical application of principles rather than further specialization in theory.

There are many ways to organize FBM inservice training programs. They could be forms of individualized study and learning with no formal courses, or two to ten day workshops on specific subjects, or from six to twelve month long apprenticeship type on the job training programs. In fact all the government agencies visited practiced one or more of these organizational forms in their FBM inservice training programs. However, there are other forms of FBM inservice training programs that can be effective. The OECD publication on farm management advisory work cited earlier explains what the contributing experts felt should be the format of the ideal FBM inservice training course.

> ...courses providing an introduction to farm management, should extend over three consecutive months and that the curricula should be based on the principles of economics and cover the possible applications of the various methods of farm management advice together with a great deal of practical work.[1]

A relatively new technique of inservice training is the use of competency-based occupation training system of which DACUM and CAP are examples and will be explained in the next section. The material from these systems can be used as a resource in any one of the above mentioned forms of organization.

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[1] Advisory Work in Farm Management, OECD No. 77, pp. 120-121.

DACUM and CAP - Two Systems of Developing Training Materials Based on Skill Needs

DACUM (Develop a Curriculum) and CAP (Competency Analysis Profile System) are two separate competency-based learning systems used in the development of curricula for training programs.

The DACUM Approach[1]

The DACUM approach is a combination of curriculum development and an evaluation process for occupational training programs.

> DACUM can be defined as a single-sheet profile that serves as both a curriculum plan and an evaluation instrument for occupational programs... It is graphic in nature, presenting definitions of the skills of an entire occupation on this single sheet of paper... It is an analysis of the occupation rather than a curriculum evolving from an analysis. The occupation is subdivided into general areas of competence. Each is then analysed to identify each skill it contains. The result is independent specification of each of the skills (behavior) that collectively enable an individual to perform competently in the occupation. These skills are defined quite simply and are structured independently in small blocks on the chart. Each can serve as an independent goal for learning achievement.

The first step in the DACUM system is to assemble "a committee of resource persons expert in a given occupation" for the purpose of constructing the DACUM chart. The committee should consist of eight to twelve people skilled in the occupation and meet from two to four days.

Once the DACUM committee is formed, the co-ordinator, who is an expert in occupational training and not the occupation being studied, introduces the committee members to the DACUM process. The co-ordinator's job is to guide the committee through the DACUM process. One of the first functions of the co-ordinator is to familiarize committee members with

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[1] R.E. Adams, DACUM Approach to Curriculum, Learning, and Evaluation in Occupational Training (Ottawa: Canada Newstart Program, 1973). p. 24-28.

the rating scale that will be used on the skills once the DACUM chart is formed. The rating scale rates the performance (behavior) needed by an individual when actually doing the skills and ranges all the way from unsatisfactory performance (0) to exceptional performance and ability to lead others in the task (6). It should be noted here that there is no mention of rating the acquisition of underlying principles that enable the individual to physically carry out the skill.

The first job of the committee is to define the "General Areas of Competence" in the occupation. The competency areas are of three types:

1) the obvious divisions of skill in an occupation
2) those divisons of skill used as part of one or more of the obvious divisions of skill in 1) above
3) convenience groupings or subdivisions of obvious divisions of skill.

The next task of the committee is "to identify, isolate, and define individual skills (behaviors) for each General Area of Competence". These are destined to become learning units in the proposed training program. It is important to note that these skills are taken to mean behaviors, that is, something the individual must physically do. In fact, "In oral definition each is prefaced by 'The individual must be able to...'". This is an important facet of DACUM to remember when comparing it with the CAP system.

Once the individual skills have been defined, the next task is to structure them into the desired learning sequence within each competency area. This is to be done from the point of view of an individual learning to acquire those skills in a work setting. After the desired

learning sequence is set up for each competency area the same process is followed through for all skills on the DACUM chart. Thus the end product, the chart, will allow the trainee to move from left to right on it, acquiring the more elementry skills first.

The DACUM process is not finished with the completion of the DACUM chart. A training module must be prepared for each of the individual skills. The material in these modules should allow the trainee to acquire competency in performing the skill through reading, doing the exercises within, and by instruction in some cases. Each training module is usually prepared by one or more experts within the occupation. One person will seldom write more than one module.

The occupation of FBM counselling in Canada has been analyzed through the DACUM process on the initiative of the CFMC. A main objective of the CFMC was to share knowledge and materials from across Canada. At present the training modules are being prepared on a number of the skills on the DACUM chart for FBM counselling which can be seen in Appendix A.

The CAP System[1]

The CAP system begins by making four assumptions. The first assumption is that the practitioner within the occupation being analyzed is the best person to assist with the analysis process because he uses the knowledge, judgement and skills required by the occupation daily. The second assumption is that priority levels between competency statements (individual skills in the DACUM approach) can be established by letting a larger group within the occupation validate the entire compe-

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[1] D. Manuel and A. Deane, "CAP A Flexible Training System," Canadian Vocational Journal 12, No. 1 (April 1976): 19-22.

tency profile once it has been formed. The third assumption is that no one person knows thoroughly the theoretical and practical aspects of an occupation. It is for this reason that "the CAP system uses a team approach to the preparation of learning materials". The final assumption of the CAP system is that it is necessary "to specify minimum criterion levels for each competency"; hence CAP is "competency-based".

There are five distinct phases in the CAP system. The first phase is the development of the basic Competency Analysis Profile. Eight to twelve practitioners of the occupation representing a cross-section get together for a "modified brain-storming" session in which the participants build the Competency Analysis Profile. They start with the major competency categories (General Areas of Competence in the DACUM approach) and work their way down to the competency statements.

The second phase of the CAP system is the "validation" of the basic CAP document completed in phase one. The two main reasons for validation are; 1) to determine priorities between competency blocks (skill boxes in the DACUM approach), and 2) to determine regional or specialization differences. A larger cross-section from the occupation is asked to examine the basic CAP document and rate the relative importance, according to a predetermined scale, of each competency statement to them when fulfilling the needs of the occupation. This validation process allows for validated CAP documents to be reproduced by different regional or occupational specializations within the larger occupation.

The preparation of complete and sequenced performance objectives is the third phase of the CAP process. A group "of two or three educational experts (with competence in preparing objectives), two or three content

experts and two or three of the original profile participants" is formed to determine the "terminal objectives" for each competency block. The performance objectives are developed using the three domains of learning as a basis. Each domain is divided into four levels which assit the group in coming up with complete and concise objectives. The domains of learning and their corresponding performance levels are as follows:

Cognitive (knowledge) Domain - 1. knowledge, 2. comprehension, 3. application, 4. analysis, synthesis, and evaluation.

Affective (judgemental) Domain - 1. receiving (examining new ideas), 2. responding (react to new ideas), 3. form a value, 4. practice a value.

Psychomotor (physical skill) Domain - 1. identify (task to be performed), 2. prepare (to perform task), 3. imitate (watch and do from others), 4. perform.

The development of learning modules is the fourth phase of the CAP system. Some of the objectives of the different competency blocks may be very similar and may warrant combining one or more competency blocks. Alternatively it may be warranted to divide some of the competencies into one or more modules. These modules then increase learning efficiency.

The final phase of the CAP system is the development of learning sites and resources. "The same group assembled for the purpose of writing objectives would be the best team to develop all the learning materials for one modularized CAP document." The learning material can include the whole range of instructional media but must relate to the learning specified by the objectives and no additional material should be included.

A Comparison of DACUM and CAP

It can be seen from the above descriptions that there is a major similarity and a few major differences between the DACUM and CAP systems.

Essentially, CAP is a further refinement of the DACUM apppoach. The largest similarity between the two systems is that they both require the building of a chart outlining the skills and competencies needed in the occupation under study. The validation process in phase two of the CAP system is a major difference. It would appear to be a better system if the original skill or competency chart is validated by a larger cross-section from the occupation. In fact, it could be argued that this is exactly what the present study is doing for the DACUM chart for FBM counselling.

Perhaps, the most important difference between the two systems, and the one that affects professional occupations like FBM counselling the most, is the preparation of objectives. The DACUM approach relies on the chart committee to come up with performance objectives geared to the behavioral performances of the trainee, which is fine for technical occupations but is lacking when dealing with professional occupations that have underlying principles for most skills. The CAP system of using the three domains of learning, each with four levels of performance, fits a professional occupation better. For example, most of the skills in the DACUM chart for FBM counselling require that the trainee have competence in the cognitive and affective domains as well as the psychomotor domain.

A final difference between the two systems is the development of learning modules. The CAP system appears to have an advantage in including phase four in the process. This phase will increase learning efficiency, but is lacking in the DACUM process. However the DACUM approach may be at an advantage when it comes to preparing materials for the modules. It would appear more advantageous to allow other experts in particular

areas of the occupation to write the training modules provided the chart committee has some input into their coordination. The CAP system of requiring that the group who assembled the performance objectives also write the training material appears rather unrealistic. The quantity of work involved in preparing the few modules completed for the FBM counselling project implies the group of ten or twelve would have to devote several years to one project for one occupation. Assuming that these are experts, they would likely have jobs and other commitments to fulfill. It can therefore be concluded that a combination of DACUM and CAP may be the best system to employ when developing a training approach to a professional occupation like FBM counselling.

CHAPTER III

STUDY DESIGN AND DATA COLLECTION

The objective of the study as stated in Chapter I is twofold, and warrants repeating here:

1) to analyze and describe the adequacy of university undergraduate and graduate training and government inservice training for professionals working in the area of FBM counselling in Canada and to make recommendations for improvements.
2) to discover what skills are needed and used by professionals working in the area of FBM counselling in Canada.

This chapter describes the design of the study and method of data collection. Included are reasons why the specific universities and colleges were chosen for investigation; why the study was limited to government inservice training programs and personnel; and why farm credit advisors and general agricultural extension workers were included in the study along with FBM specialists and counsellors. The method used in data collection from the universities, government agencies, and practitioners is also described. Finally, the method of statistical analysis that was used to analyze the data collected is given.

Study Design

Universities

A description and analysis of the adequacy of university undergraduate and graduate training for professionals working in the area of FBM in Canada could become an unmanageable task if not limited in some way. It was felt when designing the study that the majority of the professionals working in the area of FBM counselling in Canada were agricul-

tural degree graduates from the eight Canadian universities and colleges offering courses towards a degree in agriculture. It was also considered that the majority of the courses that related to FBM counselling are taught in the Agricultural Economics or related departments at these institutions. It is for these reasons that the description and analysis of undergraduate and graduate training will be limited to the courses offered at the following institutions:

1) The University of British Columbia (UBC) - Agricultural Economics Department.
2) The University of Alberta (U of Alta) - Department of Rural Economy.
3) The University of Saskatchewan (U of Sask) - Agricultural Economics Department.
4) The University of Manitoba (U of Man) - Department of Agricultural Economics and Farm Management.
5) The University of Guelph (U of Guelph) - School of Agricultural Economics and Extension Education.
6) MacDonald College - Agricultural Economics Department.
7) Laval University (Laval U) - Department of Rural Economy
8) The Nova Scotia Agricultural College (NSAC) - Department of Economics and Business.

Government Agencies

The investigation into inservice training and skill needs in FBM counselling is limited to government agencies and their employees because they do the majority of formal FBM counselling work according to the "Survey on the Present Status and Future Programs and Needs of Farm Management Extension in Canada" referred to in Chapter II; the population as a whole was easier to contact; and the institutions are located across

Canada. The population of private enterprise doing work in FBM counselling would include FBM consulting firms, chartered banks, credit unions, and many chartered accounting firms, thus making it more difficult to contact all the members. Thirteen government agencies, three federal and ten provincial, were contacted in conjunction with the study and are listed below:

1) The British Columbia Department of Agriculture (BCDA)
2) The Alberta Department of Agriculture (ADA)
3) The Saskatchewan Department of Agriculture (SDA)
4) The Manitoba Department of Agriculture (MDA)
5) The Ontario Ministry of Agriculture and Food (OMAF)
6) The Quebec Department of Agriculture (QDA)
7) The New Brunswick Department of Agriculture and Rural Development (NBDARD)
8) The Nova Scotia Department of Agriculture and Marketing (NSDAM)
9) The Prince Edward Island Department of Agriculture and Forestry (PEIDAF)
10) The Newfoundland Department of Forestry and Agriculture (NfldDFA)

and 1) The Farm Credit Corporation (FCC)
2) The Small Farm Development Program (SFDP)
3) The Canfarm Service Agency (CSA)

Survey of Agency Professionals

Farm business management specialists are not the sole professionals involved in FBM counselling. The "Survey on the Present Status and Future Programs and Needs of Farm Management Extension in Canada" shows that 189 of the 229 professional man equivalents the government agencies

allocated to FBM extension spent only part of their time on FBM extension.[1] That is to say, a large percentage, 82%, of FBM extension is done by staff with other responsibilities. It is for this reason that the opinions of District Agriculturists, Agricultural Representatives, and Farm Credit Advisors working for the above government agencies were also sought. These professionals represent an important link in the chain of any FBM counselling program. In fact, in the majority of cases, they handle the farmers' initial enquiry and usually do not require the help of the FBM specialist. This was exemplified in R.F. Heard's paper "The Role of the Farm Business Management Consultant" reviewed in Chapter II.

Method of Analysis

A pretest of the questionnaire was done in June and July of 1976 with twelve professionals working in Alberta. The comments and criticisms of the eight respondents were incorporated into the final questionnaire which can be seen in Appendix B. The pretest respondents generally considered the length could not be reduced because the information required was too important, however, they did suggest a few minor formating and sequential changes.

Four basic categories of professionals working in the area of FBM counselling were asked to contribute to the study. These professional categories include; A. General agricultural extension workers, B. Farm credit advisors, C. FBM counsellors, D. FBM resource specialists, as well

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[1] Farm Management Extension Sub-Committee, "Survey on Present Status..." p.2.

as supervisors of these professionals.[1] The professionals in the above categories were asked to rate the importance of selected types of university courses, the importance of past inservice training in the competency areas of FBM counselling, and the importance of the various skills outlined on the DACUM chart for FBM counselling to the job of FBM counselling. The scale on which they rated the above for importance follows:

1. not important (used very infrequently)
2. limited importance (limited use or can refer to a specialist)
3. occasionally very important (used only occasionally but must have a working knowledge of it)
4. most important (used often and must have full competence in it).

They were also asked to rate the need for future training, in the various competency areas of FBM counselling, according to the following scale:

0. sufficient training already available
1. not needed (used very infrequently)
2. limited need (can get by without)
3. needed (would attend course if provided)
4. great need (definite lack of training in this area)

The supervisors were only asked to rate the importance of the skills listed on the DACUM chart for FBM counselling because it was felt that

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[1] The professional categories of respondents are defined as follows:

A. General agricultural extension worker - a person working in all aspects of agricultural extension of which FBM is only a part.
B. Farm credit advisor - a person specializing in the credit aspect of FBM.
C. FBM counsellor - a person working almost exclusively with farmers and groups of farmers in aspects of FBM counselling as outlined in the DACUM chart.
D. FBM resource specialist - a person working as a resource person in FBM for other staff in the organization.

their opinions on professional training would be reflected in the training programs offered by their agency.

It should be noted at this time that there may be some confusion arising from the rating scale used in the questionnaire. The objective is to get an indication from the respondents of how important the various skills, university courses and past inservice training are to their jobs. It was felt that use should be incorporated into the rating scale in order to include this aspect of skill importance. The result of this incorporation could have been construed by many respondents as equating importance with use. If this was done, it is not detrimental to the outcome of the survey. If respondents rated a particular skill as '4'; this indicates that they perceived it to be important to the job or used frequently on the job or both. The result is that it is perceived as being used more often than if it were rated '3' and more important and useful than it were rated '2' or '1'.

The responses to the questionnaire were analyzed by averaging the rating of each university course type, inservice training area, and skill on the DACUM chart. These averages were then ranked for each professional category, including the supervisors, and the Spearman rank correlation coefficient was applied.

The Spearman rank correlation coefficient is, "a measure of association which requires that both variables be measured in at least an ordinal scale so that the objects or individuals under study may be ranked in two ordered series".[1] The procedure in using the Spearman rank correlation coefficient is as follows:

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[1] Sidney Siegel, Nonparametric Statistics for the Behavioral Sciences (New York: McGraw-Hill Book Company, 1956), p. 202.

1. Rank the observations on the X variable from 1 to N. Rank the observations on the Y variable from 1 to N.
2. List the N subjects. Give each subject's rank on the X variable and his rank on the Y variable next to his entry.
3. Determine the value of di for each subject by subtracting his Y rank from his X rank. Square this value to determine each subject's di^2. Sum the di^2's for the N cases to determine Σdi^2.
4. If the proportion of ties in either the X or Y observations is large, use formula (9.4) to compute r_s. In other cases use formula (9.7).
5. If the subjects constitute a random sample from some population one may test whether the observed value of r_s indicates an association between the X and Y variables in the population... For $N \geq 10$, the significance of a value as large as the observed value of r_s may be determined by computing the t associated with that value (using formula 9.8) and then determining the significance of that value of t by refering to Table B.[1]

Legend:

The X and Y variables referred to here are the various professional categories.

The subjects referred to above are the various skills in FBM counselling.

N = the number of observations.

d = the difference between the ranking.

r_s = the Spearman rank correlation coefficient.

$$r_s = \frac{\Sigma x^2 + \Sigma y^2 - \Sigma d^2}{2\sqrt{\Sigma x^2 \Sigma y^2}} \quad \text{(formula 9.4)}$$

$$r_s = 1 - \frac{6\sum_{i+1}^{N} di^2}{N^3 - N} \quad \text{(formula 9.7).}$$

$$t = r_s\sqrt{\frac{N-2}{1-r_s^2}} \quad \text{(formula 9.8).}$$

The product of this analysis will show the rank in order of importance of the various university course types, past inservice training, and skills needed in FBM counselling, as well as the need for future

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[1] Ibid., pp. 212-213.

training in the various areas of FBM counselling. The Spearman rank correlation coefficient will be applied to test if the rankings are relatively the same among the professional and other respondent categories. The result of this analysis will be presented in Chapter IV.

The analysis in Chapter IV will also include a presentation of the responses to other questions listed in the questionnaire located in Appendix B, but not previously discussed.

Data Collection

Universities

A basic objective of the study was to describe and analyze the adequacy of university undergraduate and graduate training for professionals working in the area of FBM counselling in Canada. To accomplish this, representatives were interviewed from each of the eight post secondary educational institutions offering courses towards degrees in agriculture.

An ideal approach would have been to spend considerable time at each institution, meeting with a broad cross section of administrators and academics. However because time and money were limited, it was decided to contact the Chairmen of departments offering agricultural economics courses to set up dates for future interviews. In most cases the chairmen delegated the interview to those professors teaching FBM and related courses. The interviews were therefore conducted with one or more professors in sessions lasting from one to six hours, at each university or college.

The objectives of the interviews were to collect information on:

1) FBM counselling competency areas being taught;

2) Curricula requirements and course accessability by students;

3) The popularity of FBM and related courses; and

4) Student course counselling procedures.

These objectives were accomplished by the following steps. First, before the interviews were set up, the calenders of the universities and colleges in question were purused, noting FBM curricula requirements and the various FBM related courses. The respective chairmen were then contacted and asked to send the investigator the FBM related course outlines. These course outlines were purused for information on FBM competency areas taught. The next step occured at the interview, when the instructors of the various FBM related courses were asked to clarify what competency areas in FBM counselling are taught in these courses. The final step was to ask the professors the following six questions:

1) Are there any courses related to FBM counselling in other departments that are recommended or usually taken by agricultural economics students?

2) Are there any definate plans to add future courses related to FBM counselling?

3) What is the percentage of agricultural economics majors with respect to the whole class of agriculture students?

4) What is the percentage of non agricultural economics majors enrolled in the FBM related courses in recent years?

5) Are class sizes in the FBM related courses growing or shrinking?

6) What is your department's method of student counselling and advising on course selection?

Government Agencies

A survey of inservice training programs in FBM counselling offered by the thirteen government agencies to their professional staff is one of the basic objectives of the study. Supervisors' opinions on important skills needed by their staff were also sought. To accomplish these objectives representatives from each of the thirteen government agencies were interviewed.

The process began with a letter to the Director of the Extension Branch of each of the ten provincial agencies and a letter to the Director of each of the three federal agencies. The letter included; background information on the study, which can be seen in Appendix C; a list of questions, which can be seen below; the DACUM chart for FBM counselling; a proposed date for an interview; and a request that someone from the FBM section be present at the interview. The letter was followed by a telephone call during which the exact interview date and those to be present were confirmed. The interviews for the most part were held at the head office of the agency and lasted from two to six hours.

The questions asked those interviewed are listed below.

1) What general types of FBM related inservice training programs for professionals have been offered by your organization in the last two years?
2) Please prepare a list of names and addresses of the people in your organization who are working in the area of FBM counselling, that is, those people using FBM skills outlined in the DACUM chart for FBM counselling. The list will hopefully include both those people working full time in FBM counselling and those that include FBM counselling as only a part of their duties, for example, general

agricultural extension workers.

3) It is important to have some idea of what administrators of general agricultural and FBM extension programs feel are the most important areas of competence needed in FBM counselling.

Please rate each area of competence, that is the writing in the lettered box on the left-hand side of the attached DACUM chart (eg. A - communicate, Counsel and Interview), as to how important that area of competence is to the people working in FBM counselling.

--importance

1. not important (used very infrequently)
2. limited importance (used occasionally or can refer to a specialist)
3. occasionally very important (used only occasionally but must have a working knowledge of it)
4. most important (used often and must have full competence in it)

If possible indicate which skills (smaller numbered boxes) in those important areas of competence, that is those rated 3 or 4, you feel are most important in FBM counselling. Please rate them 1 to 4.

4) What inservice training programs have staff members attended in the last two years that have been sponsored by other organizations? For example universities and other government departments.

5) Have there been many staff members on educational leave in the past two years, and what is your organization's policy towards educational leave?

6) Does your organization have any special inservice training programs

for new staff? Probationary periods and special meetings will be considered here.

Survey of Agency Professionals

The list of people working for the government agencies asked for in question 2 above comprised the population of professionals working in the area of FBM counselling in Canada on which the survey is based. A thirty percent sample was drawn from each category of professional from each government agency. That is to say, thirty percent of the District Agriculturists and Agricultural Representatives, thirty percent of the farm credit advisors, and thirty percent of the FBM counsellors and resource specialists. It was felt that at least three in each professional category should be chosen from each agency. The numbers of professionals chosen to receive the questionnaire from each agency can be seen along with the eventual number of respondents on Table 7 in Chapter IV.

The sampling procedure described above is called "proportionate stratified" of which Delbert C. Miller describes the advantages and disadvantages as follows:

Advantages:

1. Assures representativesness with respect to property which forms basis of classifying units; therefore yeilds less variability than A (simple random) or C (multistage random).
2. Decreases change of failing to include members of population because of classification process.
3. Characteristics of each stratum can be estimated, and hence comparisons can be made.

Disadvantages:

1. Requires accurate information on proportion of population in each stratum, otherwise increases error.

2. If stratified lists are not available, may be cost to prepare them; possibility of faulty classification and hence increase in variability.[1]

The population chosen fits into this sampling procedure quite well because the lists received from the supervisors included the individual's job title. Therefore there was adequate information in the proportion of the population in each stratum. A stratum in this case is one of the three categories of professionals working for one of the government agencies. It should be noted that FBM counsellors and FBM resource specialists were grouped into one stratum sampling purposes. Unfortunately the stratifying of the sample did not account for changes in geographical areas and therefore types of FBM within the jurisdiction of any one government agency. This means, for example the sample from BCDA may be professionals from only the northern part of the province. However the amount of stratification that did take place, that is sampling each agency separately, can account for some of the major differences in FBM between provinces.

All professionals drawn in the sample were sent the questionnaire in Appendix B, plus the background information in Appendix C, and the DACUM chart for FBM counselling in Appendix A. Those professionals drawn from Quebec were sent a french translation of the information. The questionnaires were mailed out on September 10th, 1976 with a request to send them back by September 27, 1976. A follow up letter was sent out on September 26, 1976 to those that had not yet responded, informing them the deadline was extended to October 18th, 1976. The purpose behind setting two deadlines was to pressure potential respondents into filling

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[1] Delbert C. Miller, Handbook of Research Design and Social Measurement, 2nd ed. (New York: David McKay Company Inc., 1970), p. 57.

out the questionnaire. The subject of the study was most likely considered to be important by potential respondents, however, the questionnaire was quite long and detailed. It was decided that if no deadline was set potential respondents would find themselves too busy and eventually forget about it.

CHAPTER IV

ANALYSIS OF DATA

The purpose of this chapter is to analyze the data collected from the universities and government agencies visited in the summer of 1976 and the survey of agency professionals working in the area of FBM counselling carried out in the fall of 1976. The first section of the chapter presents an analysis of the data dealing with FBM related training at universities. It is divided into two subsections, the first dealing with the situation at each university and the second dealing with the training taking place in each competency area of FBM counselling. The second section is a description of the FBM inservice training being offered at each of the thirteen government agencies chosen to be included in the study. This section includes a brief description of each agency's philosophy and approach towards inservice training as well as their plans for the future. It also includes a subsection on the contents of the inservice training by each agency over the past three years. The final section of the chapter analyzes the data collected from the survey of agency professionals working in the area of FBM counselling. The section includes subsections on; the respondent sample, their perceived skill needs, where they acquired their skills, the importance of the different university courses taken, the importance of past inservice training and the need for future inservice training, other courses of assistance in FBM counselling, and respondent suggestions for future training of FBM counsellors.

Farm Business Management Education at Universities

The material in this section endeavours to describe the FBM training at Canada's universities. Curricula, course counselling procedures, and

student registration in FBM and related courses were examined. These courses were analyzed using the competency areas designated in the DACUM chart for FBM counselling as a basis.[1] Canadian universities and colleges offering courses leading to degrees in agriculture were found to have the facilities for teaching virtually all the areas outlined in the DACUM chart. However, this is no assurance that students take, or are able to take the combination of courses that will benefit them the most in the job of FBM counselling.

An Overview of the Universities

Table 3 contains much of the information gathered on the above mentioned facets of each university and college. The table indicates that class sizes in the FBM courses are not decreasing at any institution, and contain many non agricultural economics majors. This suggests a sustained interest in the subject both as a major and as a complement to other fields of study. The following paragraphs contain information on special situations that arise at each institution as well as their plans for the future.

The special situations all deal with courses offered by the various institutions. The general FBM courses offered at the U of Alta and NSAC are the only FBM courses that do not include linear programming as a significant part of the course. However all agricultural economics majors at the U of Alta are required to take a "Data Analysis" course which includes linear programming and input-output models as major parts. The U of Alta also offers an "Advanced Farm Management" course designed speci-

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[1] See Appendix A.

TABLE 3

AREAS OF SPECIALIZATION, PERCENTAGE OF AGRICULTURAL ECONOMICS MAJORS IN THE AGRICULTURE FACULTY, FARM BUSINESS MANAGEMENT CLASS SIZE, PERCENTAGE OF NON AGRICULTURAL ECONOMIC MAJORS IN THE FARM BUSINESS MANAGEMENT CLASSES AND STUDENT COURSE COUNSELLING PROCEDURES AT THE EIGHT UNIVERSITIES VISITED

University and Department Title	Areas of Specialization Offered	% of Ag. Econ Majors in the Faculty of Agriculture.	Class Size of FBM Courses	% of Non-Ag.Econ. Majors in FBM Courses	Student Course Counselling Procedures
UBC - Agricultural Economics Department	1. Farm Management & Production Economics. 2. Agribusiness and Marketing 3. Agricultural Resource Economics & Development.	@10%	fluctuating	@50%	student initiative to approach any professor
U of Alta - Department of Rural Economy	1. Agricultural Economics 2. Rural Sociology 3. Forest Economics	@10%	increasing	@50%	one professor for graduates and one professor for undergraduates.
U of Sask - Agricultural Economics	1. Honours Agricultural Economics 2. General Agricultural economics 3. Farm Business & Resource Management 4. Marketing & Agribusiness	@20%	stablilized		one professor for all students
U. of Man - Department of Ag. Econ. & Farm Mgmt.	1. Agricultural Economics 2. Agricultural Business	@10-20%	Stablilized		one professor for all students

(con't)

TABLE 3 (Con't)

University and Department Title	Areas of Specialization Offered	% of Ag.Econ. Majors in the Faculty of Agriculture.	Class Size of FBM Courses	% of Non-Ag.Econ. Majors in FBM Courses	Student Course Counselling Procedures
U. of Guelph School of Agricultural Economics & Extension Education	1. Agricultural Economics 2. Agricultural Business 3. Resource Economics 4. Rural Development	@10%	increasing moderately	more than half	each professor is assigned three or four undergraduates
Macdonald College - Agricultural Economics Department	1. Farm & Agribusiness Management. 2. Agricultural & Food Marketing 3. Resource Economics & management	Less than 5%	fluctuating	most of class	no formal setup due to small numbers
Laval U - Department of Rural Economy	1. Agricultural Economics 2. Rural Economy (Arts program)	@20%	increasing	@50%	two professors for all students
NSAC - Economics & Business Department	1. Economics & Business	@10%	increasing	@75%	no formal setup due to small numbers

NOTE: Most of the universities offer areas of emphasis within the specializations mentioned. An example would be marketing and FBM emphasis within the agricultural economcis specialization.

fically for those wishing to practice FBM extension in the future. The U of Sask and the U of Alta each offer an agricultural economics course designed for non agricultural economics majors. The courses are entitled "Intermediate Agricultural Economics" and "Economics of Agriculture" respectively and contain instruction on various competency areas included in FBM counselling. The U of Guelph in essence has two streams of FBM students. "Those with a major interest take the more quantitative, computer-oriented stream, while others lacking a rigorous quantitative background, take a more applied approach."[1] The U of Guelph also offers a six week graduate level course emphasizing FBM entitled "Managerial Decision Making in Agriculture" that contains instruction on various competency areas included in FBM counselling. It has been taken by several professionals working in this area from across Canada. Laval U requires agricultural economics students to work one summer in a job related to their field of interest. The job is arranged by both the university and the employing organization, and therefore gives those interested in FBM and extension, additional practical training and experience. Furthermore, Laval U also offers several FBM extension type courses to agricultural field staff as a form of inservice training.

The plans for the future all involve additions and/or adjustments of courses to meet student interests. The UBC Agricultural Economics Department plans to add a new range management course in conjunction with the Plant Science Department. The U of Sask Agricultural Economics Department hopes to offer a FBM course designed primarily for veterinary students, an agribusiness management course primarily for animal science majors,

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[1] Correspondence from Dr. P.A. Wright, November 11th, 1976.

and a non thesis option in the FBM masters program. It also hopes to strengthen the rural development area by adding courses and staff. Macdonald College plans to raise their basic FBM course, "Farm Production Economics" to a full year course from its' present half course status. Laval U plans a new "Dairy Farm Management" course to start in the fall of 1976. Finally, NSAC hopes to change its' present "Business Law" course from a diploma course to a joint degree-diploma course.

An Overview by the Competency Areas in Farm Business Management Counselling

This section discusses how each of the competency areas in the DACUM chart for FBM counselling are dealt with by the universities visited. Table 4 presents the courses at each university dealing with competency areas A and B, since they are not usually considered a part of the subject of FBM. The table also indicates whether these courses are required by agricultural economics majors and whether or not they are taught within the agricultural economics department or the faculty of agriculture. The other competency areas on the DACUM chart are discussed to varying degrees in the general FBM courses offered by each university which are described briefly in Table 5.

Competency Area A (communicate, counsel and interview)

Competency area A is considered to be applicable to all professionals in agriculture, including Agricultural Economics. Therefore many courses relating to these skills are taught in other departments. Many of the professors interviewed felt that the student could acquire an adequate proficiency in much of the area by completing the assignments, group workshops and other duties that arise when taking the courses offered

TABLE 4

COURSES OFFERED IN COMPETENCY AREAS A AND B AT THE UNIVERSITY VISITED

University and Department Title	Competency Area A - (Communicate, Counsel, and Interview)	Competency Area B - (Plan, Implement, and Evaluate Farm Management Training and Extension Programs
UBC - Agricultural Economics Department		*Extension Methods *The Organization of Rural Society G*Extension Planning and Evaluation
U of Alta - Department of Rural Economy	*Theory and Practice in Rural Extension	*Principles of Rural Sociology *Rural Social Problems and Public Policy *Planning and Evaluation of Extension Programs
U of Sask - Agricultural Economics Department	R**Public Speaking (oral and written communications) R**Bachelor Thesis	*Rural Development
U of Man - Department of Agricultural Economics and Farm Management	R**Agriculture I (public speaking and communications)	
U of Guelph - School of Agricultural Economics and Extension Education	*Communication Process G*Communication Theory G*Communication Practice	R*Planning for Rural Development R*Principles of Sociology *Extension Education in Change and Development *Technology in Extension Education *Teaching and Learning in Extension Education G*Comparative Extension Studies G*Teaching Methods in Extension Education G*Administration of Extension Programs G*Evaluation of Extension Work

TABLE 4 (Con't)

Macdonald College - Agricultural Economics Department	**Communications - Extension Methods.	
Laval U - Department of Rural Economy	R**Communications ***Animation et Action Professionelle (the professional's role in social action)	R***Principles of Sociology R***Rural Sociology R***The Rural Milieu R***Program Planning
NSAC - Department of Economics and Business	**Communication and Extension Methods.	

* Course offered in agricultural economics department

** Course offered in the faculty of agriculture, but not in the agricultural economics department.

*** Course offered in other faculty than agriculture.

R Required course for agricultural economics majors.

G Graduate course.

in the agricultural economics department. Some of the institutions, however do require agricultural economics students to take a communications course.

Competency Area B (plan, implement, and evaluate farm management training and extension programs)

Competency area B is generally covered at most of the institutions. Only Laval U and the U of Guelph require that agricultural economics majors

TABLE 5

A DESCRIPTION OF THE GENERAL FARM BUSINESS MANAGEMENT COURSES OFFERED BY THE UNIVERSITIES VISITED

University & Department Title	Brief Description of General Farm Business Management Courses Offered
UBC - Agricultural Economics Department	Farm Management I - Concepts & principles, farm organization & operation, budgeting, opportunity cost, enterprise combination, appraisal & revenue. Farm Managment II - Use of farm planning models, adjustment to risk, capital budgeting.
U of Alta - Department of Rural Economy	Farm & Ranch Management - Application of economic principles to organization & management of a farm, budgeting, size of business, choice of enterprise, timing of production, farm labor utilization, farm accounting, leases & farm credit. Advanced Farm Management - Practices & tools used in farm management extension, role of farm records in management process, farm planning & budgeting credit analysis & management, risk & uncertainty, tax management & labor management.
U of Sask - Agricultural Economics Department	Farm Management - Introduction to the theory & practice of making decisions in a production situation, examination of techniques (linear programming, simulation & decision theoretic analysis) & procedures which can be used by the manager as well as those required by the professional acting as consultant to the firm manager.
U of Man - Department of Agricultural Economics and Farm Management	Farm Business Management - Principles & practices of farm organization & management use & analysis of farm records & accounts to determine efficiency of the farm business, limited field study of successful farm business.
U of Guelph School of Agricultural Economics & Extension Education	Farm Management Analysis - Analysis of farm production economics & financial decisions, includes the study of farm record systems, farm firm organization, & the credit policies & situations that affect farm management decisions, economics & investment theories are applied to farm resource

(con't)

TABLE 5 (Con't)

U of Guelph - (Con't)	acquisition, control, growth, transfer & management. Farm Management - Fundamental economic reasoning is introduced within the framework of practical farm business analysis, budgeting, farm business organization including both economic & technological considerations is demonstrated by means of visits to selected Ontario farms. Advanced Farm Management - Identification & analysis of problems & opportunities for development of successful management strategy, farm business analysis, computerized farm planning models & decision theory applied to selected Ontario farms. Managerial Decision Making in Agricultural (Graduate course)- Identification, analysis & methods of solving production & organizational problems of the farm firm, case farms are studied, simulation is used to evaluate management strategies.
Macdonald College - Agricultural Economics Department	Farm Production Economics - To develop a full understanding of production systems, functions, principles and production management, particularly in agribusiness & the farm firm, the focus is to be on problem solving.
Laval U - Department of Rural Economy	Farm Management I - The tools of management with regard to the management cycle, group analysis, computer programming, budgeting, linear programming, simulation of enterprise management, accounting & management objectives, & farm management organization in Quebec.
NSAC - Department of Economics & Business	Farm Management - Principles & methods of organizing farm businesses are examined, practical problems associated with financial analysis, planning, capital budgeting, resource use & credit acquisition are included, the role of the farm manager is identified throughout.

NOTE: The information in the table was gathered from the various calenders of the universities as well as from interviews with the professors of the courses undertaken in the summer of 1976.

take extension methods and/or rural sociology courses. The UBC and the U of Alta offer courses in this area in the Agricultural Economics and Rural Economy Departments respectively, thus making it more accessible for students to take them. However these are not required courses. The U of Alta and the U of Guelph also have additional undergraduate and graduate courses in extension, rural sociology and/or adult education that are applicable in part, to this competency area. Macdonald College and NSAC offer courses that deal with competency area B, but these courses are not required by agricultural economics majors, nor are they taught in the agricultural economics department. There were no courses in this area mentioned as usually taken by agricultural economics majors at the U of Man.

Competency Area C (assist in establishing, maintaining, and utilizing farm records)

All of the professors interviewed considered competency area C as a very major part of FBM. This area is covered completely in the general FBM courses offered by all eight institutions. However, most of the institutions considered the portion dealing with the preparation and maintenance of the various service and production accounts as well as the setting up and maintenance of a filing system, of lesser importance to the professional's job than the remainder of the area. In fact, the preparation and maintenance of climatic records was not taught in any of the agricultural economics departments visited. The preparation of income tax returns was also not considered too applicable and was only taught in about half of the FBM courses. The U of Sask was the only institution visited that offers a course specializing in this competency area. The course is entitled "Farm Records and Analysis" and deals with competency

area C completely as well as many skills in the other competency areas. All of the other institutions recommend or require agricultural economics majors interested in FBM to take some form of general accounting. In fact, the U of Guelph, Laval U, and NSAC all offer accounting courses within the agricultural economics department.

Competency Area D (obtain and manage physical resources)

Competency area D is usually dealt with in the general FBM courses. The most popular methods of explaining the underlying principles behind this competency areas were to use partial budgets, enterprise budgets, linear programming and the Canfarm computerized farm planing packages. The economic implications of farm layout is not discussed specifically in any courses and most professors interviewed considered common sense and circumstance to be major contributing factors. Almost all those interviewed felt that valuable insights into this competency area could be gained by students if they also took the corresponding livestock production, crop production, soil science and agricultural engineering courses. The UBC Agricultural Economics Department is the only department visited that offers special courses in this area, entitled "Animal Economics" and "Economics of Horticultural Crops". The U of Sask and Macdonald College are the only institutions that feel appraisal techniques warrant their own course and have entitled them "Agricultural Finance and Appraisal" and "Land and Resource Appraisal" respectively. Naturally there are many other areas discussed in these courses, especially those of competency area E in the U of Sask course.

Competency Area E (advise on Financial management)

Competency area E is covered in the general FBM courses and additional courses specializing in this area. These specialty courses are entitled, "Agricultural Finance" at the U of Alta, "Agricultural Finance and Appraisal" at the U of Sask, "Agriculture Capital and Credit" at the U of Man, "Financial Management" at the U of Guelph, and "Farm Finance" at Laval U. These courses include some principles not directly applicable to this area, but do form the basis for its' understanding. Most of these courses discuss other areas of FBM as well as agricultural economics in general.

Competency Area F (develop and evaluate alternative farm business plans)

Competency area F is considered to consist of the basic tools and techniques needed in FBM and is therefore an integral part of any FBM course. All the general FBM courses include the tools of farm planing, especially partial, complete and cashflow budgets. The institutions visited, with the exception of NSAC, also recommend or require courses, at the undergraduate level, in linear programming and other computer techniques as applied to agriculture. The analysis of the effect of farm assistance programs is the sole area that is not usually discussed at the universities visited.

Competency Area G (advise on management implications of laws and legislation affecting farmers)

Competency area G is usually discussed on an introductory basis in the general FBM courses offered by the agricultural economics departments visited. Several of these courses suggest books refering to laws and legislation for farmers on their reading lists. Most of the institutions recommend that students interested in this area take related courses in

the Faculty of Law or other faculties. The UBC has had a few agricultural economics majors take the "Land Law" and the "Common Law" courses offered by the Faculty of Law. The U of Man Department of Agricultural Economics and Farm Management recommends their students interested in this area take the "Commercial Law" course offered in the Faculty of Commerce. Laval U recommends Agricultural economics majors take any one of all three of the following; "Fundamental Law", "Business Law", and/or "Rural Law". Finally, NSAC offers a "Business Law" course to their diploma students, however degree students are also allowed to attend without receiving credit. As mentioned above NSAC wishes to make this course a combination diploma-degree credit in the near future.

Competency Area H (advise on marketing strategy)

Competency area H is covered in the marketing courses offered by all the institutions. The underlying principles and logic behind the various marketing systems and strategies are thoroughly discussed and explained. The general FBM course includes this area on an introductory basis.

Competency Area I (advise on estate planning and business arrangements)

Competency area I is usually included in the general FBM course. Due to the complexity of the many different and individualized estate plans and business arrangements, the resulting discussions are only general and introductory in nature. Students, in most cases, are told a few of the underlying principles and that many different plans and arrangements exist. The U of Alta and the U of Man each offer a course specializing in cooperative organizations, thereby dealing with part of the competency area in a little more detail. Most of the professors interviewed felt that

the area was far too complex and individualized to be taught at the university level, and that it could best be taught in inservice training.

Competency Area J (inform and advise on concepts of personnel management)

Competency area J is usually discussed very briefly in most of the agricultural economics courses offered. The U of Alta, the U of Sask and the U of Guelph all briefly discuss much of this area in their general FBM courses. The UBC, Macdonald College, and NSAC recommend students interested in this area take the personnel management courses offered by other departments in the institution.

Competency Area K (inform and advise on business management concepts and processes)

Competency area K is discussed in various courses offered by the agricultural economics departments visited. The application of economic principles to business planning is one of the main objectives of all FBM courses and is accomplished in all the courses anlaysed. The decision making process is also covered completely in the FBM courses as well as the specialty courses offered by most institutions. Competency area K appears to be dealt with adequately at all institutions.

Farm Business Management Inservice Training at Government Agencies

The purpose of this section is to provide an indication of the inservice training philosophy, approach, plans for future training, and a description of the inservice training courses offered over the past three years by the thirteen federal and provincial government agencies visited. The first part of this section contains a brief description of each agency's philosophy and approach as well as their plans for future inservice training. Only one or two representatives from each of these

organizations were interviewed and therefore it would be presumptuous to construe their answers as a complete and concise representation of what is being offered by the organization, however it should give a good general indication. The second part of this section will contain Table 6, which presents the content of the inservice training over the last three years. This subsection also lists the agencies that have sent personnel to the FBM courses offered by the U of Guelph, Oregon State University, and NSAC.

Before continuing further with this section it may be beneficial to expand on a reference made in Chapter II. The OECD's views on the shortcomings of past inservice training programs and its recommendation of an ideal format for a FBM inservice training program are presented here as an illustration of what some experts feel but not necessarily the answer to the inservice training problem.

i) In view of the urgent need for staff, have there not in some cases been attempts to impart a smattering of knowledge to a large number of farm management advisors when it would have been better to give a thorough training to the more receptive of them?

ii) Have there not been some cases of attempts to teach management advisors the most advanced methods, such as linear programming, when they did not know even the rudiments of farm management?

iii) Have there not been some cases of training courses being organized, conducted and taught by inadequately qualified staff, whereas the services of properly qualified teachers should always be used?

iv) Finally, have there not been some cases where it has been thought that farm management could be taught by the same methods as those used to teach other agricultural techniques; i.e., by means of one or more courses lasting a few days and spread out over the year?...

After lengthy discussions with those in charge of agricultural advisory work in a number of countries we consider that these training courses, ie., courses providing an introduction to farm management, should extend over three consecutive months and that the curricula should be based on the principles of economics and cover the possible applications of the various methods of farm management advice together with a great deal of practical work.

> Inservice training courses should last for at least a fortnight.
>
> It is realized that these proposals will be difficult to put into effect, because the training courses will be more costly to organize and the management advisor's field work will be interrupted for longer periods. But their adoption seems essential if the standard of training given to advisors is to improve.[1]

Inservice Training at Government Agencies - Philosophy Approach, and Plans for the Future

British Columbia Department of Agriculture (BCDA)

There have been several inservice training courses related to FBM organized by the BCDA in the last fifteen years. These courses are outlined briefly in Table 6. The courses were primarily aimed at District Agriculturists to up-grade their skills in farm economics and instruct them in the operation and application of provincial and national farm accounting programs. In recent years Regional Farm Economists and seconded SFDP staff in the area of FBM have participated in training courses in specialized fields of FBM. Some District Agriculturists have also attended these courses. Present and future inservice training programs may not be as numerous as in the past because most staff are considered adequately trained. However, farm law and estate planning will be major topics in any future courses.

There are three other less directly related programs undertaken by the BCDA that can be considered inservice training. First, new staff appointed to the Development and Extension Branch enter as Assistant District Agriculturists. They work with an experienced District Agriculturists for a period of two or three years. During this time they are exposed to and experience the many responsibilites of an extension agent.

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[1] Advisory Work in Farm Management, OECD, No. 77, pp. 120-121.

The Regional Farm Economist will endeavor to work with the Assistant District Agriculturist on the principles and application of FBM. Secondly, the Consensus Research Data (CRD) program is another form of training available. By participating with the farmers in gathering this data the staff member acquires vital skills in FBM as well as learning how to deal with groups of farmers. Finally, several staff members also went to the Western Canada Farm Management Workshop held in Vancouver in September of 1975, at which FBM related topics were discussed.

The staff of the BCDA also attend inservice training courses offered by other organizations. Staff members attended a three day seminar last spring located at the UBC which included two days of communication skills and a half day on the use of audio-visual aids. Staff members are also eligible for full and part time educational leave in order to pursue higher degrees. Few have taken the opportunity for full time leave in the last couple of years, however several have taken advantage of the FBM courses at the U of Guelph and at Oregon State University.

Alberta Department of Agriculture (ADA)

The FBM related inservice training offered to ADA staff has been extensive particularly in the last year or two. In the fall of 1973 there were two one week long FBM inservice training courses which are outlined in Table 6. The time period between the fall of 1973 and the spring of 1976 was filled with many less formal FBM related, staff training sessions. The staff of the FBM Branch and the Regional Farm Economists met several times with groups of District Agriculturists (D.A.'s) and Alberta Agricultural Development Corporation Loans Officers in one to three day sessions to discuss topics ranging from budgeting, the Canfarm computerized farm

planning tools, tax management, estate planning, Canfarm record interpretation and group analysis, and other related topics. The staff of the FBM Branch also meet frequently with the Regional Farm Economists to discuss the above topics in more detail, as well as future programs and procedures for FBM inservice training in the ADA. The Second Inernational Farm Management Congress, in July 1974 at Guelph, and the Western Canada Farm Management Workshop, in September 1975 at Vancouver, were also attended by several ADA staff.

In 1976 there were three four day long sessions entitled Extension and Management Inservice Training Courses which were open to all professional ADA staff. The objectives of the courses were as follows:

1) Develop an appreciation for extension as an educational activity as well as providing a service function.
2) Develop an appreciation for the importance of the farm family's values and goals in the business decisions of the farm unit.
3) Develop an appreciation for provision of advice and counselling through a total farm business approach.
4) Develop an appreciation for use of adult education principles in developing an effective extension program.
5) Develop an appreciation for and practice in the use of management principles and tools in farm and home decisions.

The topics discussed in these courses are outlined in Table 6.

New staff with ADA are on probation for one year. In that time the new D.A.s work under the supervision of a more experienced D.A. thus learning many practical aspects of agricultural extension. New staff also attend a week long orientation session after six months on the job. This session includes department orientation as well as small group workshops

and an opportunity to meet other people in the same situation.

Saskatchewan Department of Agriculture (SDA)

The regionalization concept as practiced by the SDA, with a mixture of line and functional staff authority, has assisted subject matter specialists in training and working with other members of the organization. It therefore follows that information flow from Regional Farm Management Specialists to other specialists in the region as well as from head office Farm Management Specialists to regional and district staff is greatly aided. An example of this information flow on a more structured basis is a two day seminar dealing with farm incorporation held last winter in one region for regional and district staff. A head office subject matter specialist with the assistance of a private specialist in that field dealt with tax and legislative implications of farm incorporation with the expressed purpose of teaching those attending enough so that they could use the information in the future. It is understood that this process, albeit less formal, is carried out upon request from the regions or districts.

The content of the inservice training programs undertaken by the SDA over the last couple of years is outlined in Table 6. It will suffice here to say how the courses were organized and taught. The first course consisted of eight days of instruction and was held in Kindersley and again in Yorkton in January and February of 1976. The course was open to all Extension and Rural Development Division field staff including Agricultural Representatives, Regional Farm Management Specialists, Farm Development Specialists, Community Projects Specialists, Credit Officers and Land Bank Counsellors. An instructor with several years of experience

in FBM was hired to coordinate and teach the course. The second course was a communication-counselling training program set up in May of 1976 to be carried out over three five day weeks. One week was held in June 1976 and the others in September, 1976 and January, 1977. The need for this type of course was expressed by field staff and was designed for Farm Development Specialists, Agricultural Representatives, Credit Officers, and other subject matter specialists. The course was designed and taught by the staff of the Student Counselling Services of the U of Sask. The contents of the June session are listed in Table 6. The September and January sessions are designed to develop these skills to a greater depth and build on case material brought in by participants.

The other forms of inservice training undertaken by SDA staff are discussed below. The Farm Management Specialists travelled to Winnipeg in the winter of 1975-76 to attend a two day grain marketing seminar in order to prepare themselves to give grain marketing siminars to farmers in their regions. Traditionally, each year approximately four Agricultural Representatives are sent to the Arizona School of Extension in Tuczon to attend courses in extension. However, there has been no one on full time education leave to acquire advanced degrees for the past two years.

Finally, the SDA works closely with the Extension Divison of the U of Sask in providing resource people for extension programs. There are a number of joint appointments of professors who spend one half of their time teaching and the other half in extension work. In the past the Extension Division of the U of Sask has offered credit courses to SDA staff, an example of which is an extension program planning and

evaluation course. However, the SDA has steared away from credit courses preferring job related courses which are tailored to accommodate the needs of extension workers.

Manitoba Department of Agriculture (MDA)

The following is a brief summary statement of Mr. Ron Mitchell, Chief, Farm Management Section, indicating where most of the FBM in-service training has been concentrated.

> Inservice training programs have been concentrated in two main areas if we use the Counselling Chart as a guide. These were in matters covered by Band C and Band I, Accounting and Business Organization, respectively. Some minor amounts of training occured relative to some subjects in Bands D, E, F, G, H and K.
>
> Much of this training has taken place in the regions of the Province, carried out by our Farm Management Specialists. The target group has been primarily the Farm Advisors who work with clients in our Farm Diversification Program and Agricultural Representatives.[1]

The MDA has also offered inservice courses to its' Farm Management Specialists, one in May 1974 and another in May of 1975. Both courses were sponsored jointly by the Economics Branch of the MDA and the SFDP and their contents are listed in Table 6. A number of staff have also attended university courses in the past three years. One staff member was assisted in finishing his Bachelor of Science in Agriculture program, one staff member is taking Business Administration courses part time at the U of Man, and another has taken an extension course at Colorado State University.

At the present time there are no special courses for new staff and it is up to the more experienced staff to work with and orientate new staff members. However, new staff are required to serve a six month

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[1] Correspondence from R. Mitchell, October 13, 1976.

probationary period. The MDA is also investigating the development of an orientation process for new staff, "especially with respect to general orientation to working in government and to programs in which the Department is involved".[1] In addition to this orientation, new FBM staff will spend the first couple of weeks touring their region, studying the geography and meeting with all the staff and the regional director. "In this way the new person can get a better idea of how to relate to the present staff and to determine the kinds of needs that have to be fulfilled."[2]

Ontario Ministry of Agriculture and Food (OMAF)

The OMAF's concept of farm management is larger than just FBM and includes production technology and cultural practices as vital parts. The Agricultural Representative coordinates the efforts of the Assistant Agricultural Representatives, Agricultural Engineers, Livestock Specialists, Soils and Crops Specialists, and other Ministry staff in his geographical area toward an integrated team approach to solving overall farm management problems with area farmers. There is also a considerable amount of information flow amongst team members and from head office staff, thus constituting a very valuable form of inservice training. The fact that it usually takes a person from five to eight years, depending on position vacancies, to become an Agricultural Representative shows that there is also a comprehensive form of apprenticeship training.

The OMAF uses workshops for the inservice training of staff that may consist of a combination of production technology and FBM. It also works on a contract basis with the U of Guelph, thus providing added expertise at these workshops, as well as on other occasions. A list of

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[1] Ibid.

[2] Ibid.

these workshops and other FBM related inservice training programs is available in Table 6.

Quebec Department of Agriculture (QDA)

In order to get a better understanding of the present FBM related inservice training some relevant history should first be presented. In 1965 the Quebec government made FBM a priority among all staff of the QDA. A simple account book was designed and every professional working in the field for QDA, no matter what his job, was obliged to sign on and work with about twenty farmers. Each fieldman was therefore trained on how to operate the account book including inventory, and financial statements. By the late 1960's both a group analysis system and a data bank system were in operation in conjunction with Laval U. However, by 1970 the program was revised because it was felt that too much time was spent on the account book and not enough on budgeting. Also, at this time Canfarm was introduced into Quebec. Looking after farm accounts is now the job of the Farm Management Technician not the professional agricultural extension worker.

Inservice training of the professional staff at the county, regional and head office level is less intensive than it once was and is now the job of the regional and head office FBM Specialists. All the staff receive training in record keeping and analysis we well as partial, complete, and cashflow budgeting. This budgeting is both manual and computerized and includes some linear programming. The Regional Farm Management Specialists meet with the County Agricultural Agents in their regions for about two, three day sessions a year. The feedback from these sessions has indicated that the field staff prefer the manual budgets and the less detailed computerized management tools to the more detailed computerized

budgets, including linear programming. At one time there was a one week FBM extension course offered to County Agricultural Agents, however this has not continued in the last three years. There continues to be occasional special courses offered by head office specialists on partnerships, corporations and other estate planning topics. The Farm Management Specialists meet at least two or three times a year to discuss various topics. The topics of the June 1976 meeting are listed in Table 6.

Information transfer and other informal methods constitute a major part of the inservice training of QDA professionals working in the area of FBM counselling. There are many informal meetings, as well as telephone conversations, between Regional Farm Management Specialists and County Agricultural Agents. More formal meetings between these staff members usually occur about once every two months, and last a day or two.

New staff members are on probation for the first year and are under the superivision of a more experienced staff member. This allows them to receive information from the more experienced staff members thus learning about FBM counselling and agricultural extension work in general.

County Agricultural Agents and other staff also receive considerable inservice training from various university courses. From 1962 to 1972 there was a compulsory two to three week extension, FBM and office administration course offered by Laval U. In 1974 a new two to three week course was designed at Laval U for lending officers. It includes many of the accounting and FBM counselling skills needed by lending officers. Laval U also offered courses in communications, counselling, personnel management, and supervision to staff members, but not in the last three years. Educational leave to receive advanced degrees is also available to QDA staff, but has been curtailed in the last couple of years.

The final form of training available to QDA staff is more indirect. QDA staff are responsible for administering the Ministry of Education farmer training programs in FBM. This includes the preparation of video tape lectures and demonstrations as well as being a resource person for the farmers involved. The job of administering and teaching is also benefical to the field staff involved because they concurrently learn the concepts better.

New Brunswick Department of Agriculture and Rural Development (NBDARD)

A significant portion of the FBM related inservice training of the NBDARD staff at present is accomplished by attending formal courses usually sponsored by educational institutions. However there have not been many staff members on extended educational leave to seek advanced degrees in the recent past. The staff also attend a variety of shorter courses, an example of which was the one and one half days spent in Charlottetown in May of 1976. The contents of this course are outlined in Table 6.

The NBDARD at one time used the workshop approach in their inservice training, but have had little of this training in the last four years. There are two reasons for this, first, a very low staff turnover and second, people are sent to other available courses as mentioned above. Recently there has been a large staff turnover and therefore three separate inservice workshops for extension personnel were conducted in October of 1976. The content of these workshops is outlined in Table 6.

Another form of inservice training used by the NBDARD is courses sponsored by the Treasury Board of the New Brunswick government. The majority of these courses cover the skills outlined in competency area A.

of the DACUM chart for FBM counselling and thereby include counselling skills as well as supervisory skills, and other psychological type skill training.

The final form of inservice training offered by the NBDARD is a form of apprenticeship program. New District Agriculturists are on probation for about six months, and are placed with a more experienced senior District Agriculturist. The supervising District Agriculturist is responsible for training the new staff member in most of the skills needed on the job.

Prince Edward Island Department of Agriculture and Forestry (PEIDAF)

Inservice training at the PEIDAF is focused around the individualized learning process stemming from the DACUM approach to curriculum development. Staff are encouraged to enter a program of professional development through individualized learning at Holland College in Charlottetown. Essentially this means that a person can go at any time and advance through a program of professional development at his or her own pace. This individualized learning process is also carried out at the various Resource Centers throughout the province. Staff are encouraged to use the materials already developed under the Atlantic Farm Business Project as well as modules on FBM counselling as they are made available by CFMC.

There are other forms of inservice training available to PEIDAF staff. The PEIDAF offers inservice training to staff members on an ad hoc basis when they identify a particular training need. The PEIDAF also has staff members on extended educational leave in order to pursue higher degrees or to attend the various courses offered by universities. New

staff with the PEIDAF have to go through a twelve month probationary period. During this time the individual is assigned to a supervisor who is responsible for his or her orientation and training. The final form of training is the several courses offered by the PEI civil service in counselling, group processes, and institutional techniques including supervising and interviewing skills.

Nova Scotia Department of Agriculture and Marketing (NSDAM)

Most inservice training of NSDAM staff is done on an ad hoc basis upon requests from the field staff. The Farm Management Specialists speak at the regional meetings that occur about three times per year. They will also have several informal meetings and telephone conversations with the Agricultural Representatives throughout the year. The Farm Management Specialists themselves, will get together once every two or three months to discuss any new topics or recurring problems that may have arisen. New Agricultural Representatives also follow a form of apprenticeship program for approximately two years. During this time they work with and are supervised by a more senior Agricultural Representative who is responsible for teaching them the appropriate skills needed by an agricultural extension worker. Full and part time educational leave in order to seek advanced degrees is available to staff members. Finally, there are short courses offered by the government of Nova Scotia dealing with sensitivity training, group processes and communications.

Newfoundland Department of Forestry and Agriculture (NfldDFA)

The information on inservice training offered to the staff of the NfldDFA was gathered through correspondence with Mr. L. Johnson, Farm Management Specialist, St. John's, Newfoundland. In his letter he states:

> In the last two years our inservice training program has basically centered around the Atlantic Farm Business Project Materials (DACUM)..... In addition, we conducted several short courses and workshops in the various farm management skills such as estate planning, budgeting, record keeping, etc.[1]

Farm Credit Corporation (FCC)

Before 1973 FCC had offered a rather comprehensive FBM inservice training course, with its own text, and quite naturally emphasizing the areas of credit and financial management. It was taken by new staff over a period of two to three winters. The first winter consisted of the principles and concepts of FBM. The participants were given instruction in a central location for three to five days and then given exercises to do for the next session several days later. The second year consisted of studying a case farm, usually from a farm in their own area, using the principles and concepts learned earlier. The feedback from participants was that there was too much emphasis on theory and not enough on the more easily applied management tools.

Current training in FBM is not as rigorous as before 1973. Most of the Credit Advisors hired in recent years have taken FBM courses and many have specialized in agricultural economics. New staff indoctrination therefore concentrates on lending policy and appraisal techniques as well as basic FBM concepts. This indoctrination session takes three to five days, is administered on a branch basis, and therefore varies from branch to branch. New staff are also on probation for a minimum of six months and in that time work closely with senior and more experienced staff. Arrangements can be made for educational leave and are usually applied to evening courses related to the job. Extended educational leave to seek advanced degrees has been halted in the last couple of years.

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[1] Correspondence from Mr. L. Johnson, September 8th, 1976.

Future training in FBM will depend on feedback from field staff. The feedback so far has indicated that they would like more training in practical financial management, that is, financial statement preparation and analysis as well as more emphasis on the communicating, counselling, and interviewing skills. Additionally, the FBM modules being developed under the CFMC appear to have potential for training purposes.

The Small Farm Development Program (SFDP)

Seconded staff of the SFDP usually attend the various inservice training courses offered to the regular staff of their host province. In some cases SFDP staff assist in running the training session as happened in Red Deer, Alberta in the spring of 1976.

Future inservice training of SFDP staff will center around two major points. The first is FBM knowledge and the second is the counselling skills necessary to work with small farmers on a one to one basis. If they cannot find people with these two attributes they are willing to take an individual with only one and teach that person the other. The second major point is that the SFDP wish to use the DACUM chart for FBM counselling and the training modules developed from that chart as a main instrument for training.

New staff with the SFDP have to go through a twelve month probationary period. On occasion some new staff members have been placed with more experienced staff for short periods of time. "Special training or orientation sessions for new staff have been minimal because very seldom do a number of new staff report at any one time and provincial programs differ significantly from one province to another."[1] However, in some cases new SFDP staff have participated in provincial new staff orientation

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[1] Correspondence from R. Benoit, October 26, 1976.

meetings.

There are several other types of inservice training available to SFDP staff. In the past, special courses have been organized on a regional basis specifically for SFDP. There are also courses offered in special areas of FBM counselling. Examples of these are a communications seminar held in Manitoba and proposals for a future course, likely in the winter of 1976-77, specializing in the counselling and other skills rated as needed by SFDP staff in recent meetings. Full time educational leave is also available to SFDP staff. They average about two people per year on this type of leave, with the requirements being that further education either advances the person's own skills on the job or that the research done can be used by the SFDP. Shorter term educational leave is also available. Some staff of the SFDP have also attended the FBM courses at the U of Guelph, Oregon State University, and NSAC. Finally, the Public Service Commission has offered courses that can be applicable to SFDP staff, including communication seminars and management skills seminars.

Canfarm Service Agency (CSA)

The following is a comment made by Mr. Bob Lockwood, the former head of the Market Development Section of CSA in reply to the question about FBM related inservice training to CSA staff.

> Canfarm Service Agency has been involved in FBM training of CSA staff, contact agency staff, students of diploma and degree programs at colleges, and commercial farmers across Canada. Generally, this training is specific to utilization of Canfarm records, planning and data bank services in farm management decision making.
>
> Our basic thrust has been to teach farmers the skills required to utilize Canfarm services effectively in decision making and be able to operate those services relatively independently within reasonable periods of time. Generally, CSA works with the extension people, the contact agents and instructors at the colleges and only infrequently with farmers directly.

> A second major approach involves working with contact agency staff in identifying specific information needed within their priority research, extension and education programs. Having identified the needs, we can then design recording, processing and retrieval procedures to produce the information required in a timely, continuous fashion. It is essential in this application approach that farmers see benefits to themselves or are adequately compensated for recording beyond their needs.
>
> Finally, CSA works with consultants and extension personnel in the ultization of various planning services from cashflow projection to dairy feed formulation services. Contact agencies use these services in farm management problem solving with individual farmers as well as in the development of various benchmark situations for extension programs, etc.[1]

Canfarm Service Agency directs its' educational approaches, training materials, and promotions at the farmer. The CSA and contact agency staff are also instructed in the use of these approaches and material. The CSA field staff are called together at least twice a year, in the spring and fall, for a conference in which they discuss the nature of marketing, planning, and technical operation of the Canfarm system.

Inservice Training at Government Agencies - Summary of the Past Three Years

Table 6 presents the contents of the more formal inservice training courses sponsored by the various government agencies in the last three years. Not all the government agencies supplied detailed information on the more formal courses and in fact some agencies did not have formal courses in this time period. It should be noted that these are just summaries of the contents and that the agency's overall training philosophy is outlined in the text above. It should also be noted that some of these "contents" are only topics that were discussed at rather informal meetings of agency staff.

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[1] Correspondence from B. Lockwood, October 13, 1976.

TABLE 6

CONTENTS OF THE INSERVICE TRAINING COURSES OFFERED BY THE GOVERNMENT AGENCIES IN THE LAST THREE YEARS

Agency	Length, Year and Contents of Courses
BCDA	- 3 weeks in January of 1973 - FBM in general.
	- 3 weeks in November 1974 - financial planning for small farmers (financial statement preparation in absence of records for loan applications).
	- 5 days in January 1975 - 35% records (Canfarm Version III), rest on tax management and estate planning.
	- 4 days July 1975 - economic theory (profit maximization) (1/2 day) what bankers look for in financial planning (1/2 hour), rest of time on Canfarm farm planning packages and terminal operation.
	- 3 days in February 1976 - Canfarm farm planning packages (1 day), Canfarm Version III (2 days).
	- 5 days in November 1976 - business organization (partnerships and corporations) (2 days), leasing and contract (1/2 day), advanced estate planning case studies (1 day), land and building assessment and land tax (1 day), dairy quotas and marketing problems (1/2 day).
ADA	- 1 week fall 1973 - basic economic principles in FBM, farm accounting, tax management, budgeting (complete and partial), Canfarm records and farm planning packages, computerized FBM game.
	- 1 week fall 1973 - Advanced FBM - case studies in budgeting (complete and partial), tax management strategies, estate planning (partnerships, corporations, and farm transfers), Canfarm records (interpretation and group analysis).
	- 3 four day long sessions in the spring of 1976 - FBM philosophy and goal identification, decision making process, FBM principles, extension of FBM technology, group case study analysis of farm problems and determining farmer objectives, building a working relationship with clients, communication of ideas, an analysis method for identification of a farm problem, economic aspects of the case study, identify the problem and suggest solutions, work in groups, farm family goals and resource allocation, production records (hog ROP and milk recording), using cost studies, understanding the basic tax rules, tax management strategies, performance indicators and control of management decisions, cash flows and farm planning,

TABLE 6 (Con't)

Agency	Length, Year and Contents of Courses
ADA (con't)	extension techniques and metrication, home records in FBM context, developing family financial statements (income, net worth and cash flow statements), what can financial statements tell the family decision makers, types of arrangements (partnerships, incorporations etc.), estate planning for farm families.
SDA	- 8 days in January and February of 1976 - introduction to FBM, labor management, assessing levels of management, four costs of production, farm planning (definition, purpose, problems), tools of farm planning (complete and partial budgets and cash flows) analysis of present farm operation, farm reorganization, case study preparation, farm records, economic principles, compound interest, financing and credit management, machinery economics, livestock decisions, income tax management, farm buisness arrangements. - 5 days in May of 1976 - Communication-Counselling - concern census (what staff participating want), interview skills, assessment (contracting with clients, the rescue trap, effective feedback skills), communications skills, intervention skills (exploration, confrontation, action planning), and the helping relationship.
MDA	- 10 days in May of 1974 - 1. Orientation - structure of MDA, farm diversification program, technical services program, Manitoba herd health programs, SFDP, Manitoba agricultural credit corporation program, Manitoba crop insurance program. 2. Working with Small Farmers - understanding and working with the small farmer, individual experiences in working with small farmers, communication and communication techniques. 3. Assisting the Retiring and Out-Migrating Farmers - identification of (sources of income, needs for income, management of surplus income, and adjustment of deficit income), basic mathematics for annuity type calculations, personnel adjustment problems, money management topics. 4. Introduction to FBM - the discipline of FBM, goals and objectives of FBM, resource allocation and economic principles, adjustments required in moving from traditional clients to small farmers, bibliography of useful material, basic farm accounting, financial statements, farm financing, budgeting, construction of cash flows, farm business organization, analysis of a farm business, summer assignment.

TABLE 6 (Con't)

Agency	Length, Year and Contents of Courses
MDA (Con't)	- 3 days in May of 1975 - Farm Business Organization Workshop - partnerships, corporations, co-operatives, a comparison of above arrangements, case problems (workshop groups, group presentation), considerations in transfer of farm business, income tax.
OMAF	- 1. 1975 Swine Extension Workshop - pork production information, financial and busines records, comparative analysis summaries, viability of the pork enterprise. - 2. 1975 - Dairy Cattle Workshops - computerized dairy feed formulation, financial counselling of IMPIP loan recipients, - 3. Annually - Farm Records and Farm Planning Workshops - comparative analysis summaries for various enterprises (Canfarm and Ontario farm record books), computerized farm planning and decision making tools (cash flow forecaster - Cash-plan, loan calculator, dairy farm planning model, cash grain budget system, RRSP evaluator, ventilation design, truss design, tractor selection, buy vs custom hire, machinery replacement, machinery financing), time saving, quality improvement of farm records, Canfarm updating, interpretation of Canfarm records. - 4. as required - Canfarm Training Workshops - 5. as required - Audio-Visual Aids Workshops - 6. December 1973 and October 1976 - Farm Financial Counselling sources and uses of farm credit, credit philosophy and current lending policies, developing a plan of operation and securing the necessary finances, Industrial Milk Production Incentive Program (IMPIP) counselling. - 7. Annually - Farm Taxes and Estate Planning Seminars and Workshops - succession duties, gift tax, land speculation tax, land transfer tax, use of land registry office, family farm transfer, capital gains tax, rights and things, income averaging, livestock, CCA, RRSP, workmen's compensation, CPP, UIC, investment tax credit, quotas, farm business agreements, income sharing agreements, partnerships, farm incorporation. - 8. Annually - Graduate level Courses at the U of Guelph - Managerial Decision Making in Agriculture, Planning for Community Development, Administration of Extension Programs, Teaching Methods in Extension Education, Evaluation of Extension Work, Agricultural Marketing and Prices.

TABLE 6 (Con't)

Agency	Length, Year and Contents of Courses
OMAF (Con't)	- 9. Annually - Courses Offered by Staff Development Section, Personnel Branch OMAF - Communications, Problem Solving and Decision Making, Management Skills, Public Speaking, Consulting Skills, Personal Stress Management, Teaching Methods, Conference Planning, Writing for the Public, Time Management, Interpersonal Skills, Effective Group Leadership, Advanced Communications.
	- 10. Annual - Meetings - program planning, review and evaluation, establishment of objectives, preparation of plans of work.
	- 11. Annual - Staff Conference - Stablization, trade and tariffs, communicating with farmers, marketing, farm and agribusiness visits, land leasing, land resources, land use planning, agricultural economics, farm credit, farm business arrangements, estate planning, tax management, and management skills.
QDA	- June of 1975 - Meeting - Canfarm management tools (dairy model and others), Canfarm groups analysis, costs of production (potatoes, cow-calf), fixed and variable costs, orientation of management (approach, clientele, syndicates, etc.).
NBDARD	- October 1976 - Workshops - 1. farm records, concepts of cost, depreciation, net worth, net farm income, cash flow, partial and complete budgeting, the Maritime farm business game. 2. estate planning and case problems in partnerships, co-operatives, and corporations, farm business transfers and income tax. 3. Canfarm dairy feed formulation model,(1/2 days) in May 1976 - Charlottetown - Atlantic Farm Business project, macro and micro aspects of economics, counselling procedures in the absence of farm records, summer milk versus winter milk and financial management on farms.
PEIDAF	- The DACUM individualized learning materials from Holland College and CFMC.
	- 1 day in Spring of 1976 - Meeting - farm records and analysis. ad hoc courses based on need.
NSDAM	- ad hoc courses based on request from field staff. Farm Management Specialists speak at regional meetings about three times per year on-- tax changes, new marketing legislation, estate planning and other FBM related topics.

TABLE 6 (Con't)

Agency	Length, Year and Contents of Courses
Nf1dDFA	- Various courses and workshops in estate planning, budgeting and record keeping.
FCC	- Courses administered on branch basis and therefore differ but usually deal with lending policy and appraisal techniques.
SFDP	- Staff attend the various inservice training courses offered to regular staff of their host provinces. - 3 - 4 days in Maritimes - Workshops - partial budgeting and cashflows. - Alberta - Seminar - Counselling Skills.
CSA	- Training in farm records, planning and decision making is ongoing.

Listed below are the government agencies which have sent personnel, usually around one or two per year, to the FBM courses at the U of Guelph, Oregon State University, and NSAC. The U of Guelph course lasts six weeks, is entitled "Managerial Decision Making in Agriculture" and is described in Table 5. The Oregon State University course is also a six week graduate course dealing with the many aspects of FBM and is simply called "Farm Business Management". The NSAC "Farm Business Management" course is three weeks long and is designed as an inservice training course for practicing agrologists.

U of Guelph - BCDA, ADA, MDA, OMAF, NBDARD, PEIDAF, NSDAM, SFDP.

Oregon State University - BCDA, ADA, SFDP.

NSAC - NBDARD, PEIDAF, NSDAM, SFDP.

Survey of Agency Professionals

The Respondent Sample

Each of the thirteen government agencies was asked to submit the names of professional staff employed in the following professional categories; 1. general agricultural extension workers, 2. farm credit advisors, 3. FBM counsellors, and 4. FBM resource specialists.[1] A total of 1,091 names were received from which a 30% "proportionate stratified" random sample was selected. The resulting sample of 339 individuals was mailed questionnaires and background information on the study.[2] Two hundred and eighteen individuals, or 64% of those sampled, returned the questionnaire. A detailed breakdown of the respondents by agency and professional category is presented in Table 7.

Table 8 provides information on respondents' highest educational levels, years of experience and percentage of time spent directly on FBM counselling. Unexpectedly, not all of the respondents have university degrees. Thirty-five had either diploma degrees or no post secondary education. Because an objective of the study was to evaluate university education in relation to the profession of FBM counselling, these thirty-five are excluded from the analysis, leaving 183 respondents with university degrees as the basic sample for the remainder of the analysis.

While several respondents spent minimal amounts of time on FBM counselling, it is important to note that on the average, each professional category utilizes a substantial portion of its total time on the

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[1] See p. 41, footnote 1 for the definitions of the professional categories.

[2] See pp. 48-49 for explanation of sampling procedure and Appendices B and C for the questionnaire and background information.

TABLE 7

TOTAL NUMBER OF AGENCY PROFESSIONALS SUBMITTED, SAMPLED AND RETURNED BY GOVERNMENT AGENCY AND PROFESSIONAL CATEGORY

Government Agencies	Total Submitted	Total Sampled	Respondents				
			General Agricultural Extension Workers	Farm Credit Advisors	FBM Counsellors	FBM Resource Specialists	Total Returned
BCDA	24	8	3	0	0	2	5
ADA	142	42	15	8	0	5	28
SDA	81	26	11	3	2	2[a]	18
MDA	78	23	7	2	2	1	12
OMAF	129	39	33	0	2	3[a]	38
QDA	184	56	12	5	2	2	21
NBDARD	25	10	3	1	1	1	6
NSDAM	27	8	4	1	0	0	5
PEIDAF	15	5	3[b]	0	0	0	3
NfldDFA	8	5	0	0	0	0	0
FCC	269	83	0	57	0	2	59
SFDP	59	18	6	0	7	1	14
CSA	50	15	0	0	1	7	8
TOTALS	1091	339	97	78[c]	17	26	218

[a] Some professionals sampled from general agricultural extension workers and farm credit advisors considered themselves to be FBM counsellors or resource specialists.

[b] One respondent was originally intended to be a PEIDAF employee but was an SFDP employee.

[c] One additional farm credit advisor did not indicate his employing agency.

TABLE 8

RESPONDENTS' HIGHEST EDUCATIONAL ATTAINMENT, AVERAGE EXPERIENCE IN AGRICULTURAL EXTENSION AND PERCENTAGE OF TIME SPENT IN FBM COUNSELLING

Formal Education	Gen. Agricul. Exten Workers	Farm Credit Advisors	FBM Counsellors	FBM Resources Specialists
Masters	17	1	4	14
Bachelors	78	47	13	9
Agricultural Diploma	0	16	0	2
Non-Agricultural Diploma	0	2	0	0
No Post-Secondary Education	2	12	0	1
TOTAL	97	78	17	26
Average years of Experience in Ag. Extension	10.6	7.4	10.4	7.7
Average Percent of Time Spent on FBM Counselling	41.0%	41.5%	52.5%	25.0%
Distribution of Respondents by Time Spent on FBM Counselling				
0% of time	4.1%	9.0%	11.8%	23.1%
1 - 25%	37.1%	23.1%	5.9%	38.4%
26 - 50%	32.0%	34.6%	29.4%	23.1%
51 - 75%	25.8%	14.1%	23.5%	7.7%
76 - 100%	1.0%	19.2%	29.4%	7.7%

subject. This emphasizes the importance of FBM counselling as a subject area in agricultural extension work. The high levels of activity in both general extension and credit advisory work suggests that its importance should not be overlooked by the agencies when hiring and training staff.

Table 9 shows a more detailed breakdown of formal education by type of education and professional category. While there are a number of items of general interest, some important specific details are:

1. That approximately 62% of farm credit advisors have university degrees. This was unexpected since a major objective of the study was to obtain professional workers' opinions on their university education. This may imply a better form of stratifying the population was needed before the sample was done.
2. That approximately 54% of the FBM resource specialists have masters degrees.
3. That only 14% of all respondents indicated they have bachelor degrees with majors in agricultural economics.

Respondents' Perceived Skill Needs

The Individual Skills

The basis for rating the importance of the FBM counselling skills by respondents, was the DACUM chart for FBM counselling shown in Appendix A, and the rating scale explained on page 41. Each of the 183 respondents with university degrees was asked to rate at least a portion of and if possible all of the 133 individual skills on the DACUM chart. Thus, while not all of the respondents rated all of the skills, the sample was arranged so that every skill was rated by at least a third of the respondents. This procedure was felt necessary to reduce the time required by each

TABLE 9

FORMAL EDUCATION OF RESPONDENTS
(in percentages)

Education	Gen. Agric. Exten. Workers	Farm Credit Advisors	FBM Counsellors	FBM Res. Specialist	Total
No Post-Secondary Education	2.1	15.4	0	3.9	6.9
Non-Agricultural Diploma	0	6.4	5.9	11.5	4.1
Agric. Diploma	11.3	24.4	17.6	15.4	16.9
Majors					
1. Agric. Busisness & Extension Ed.	1.0	0	5.9	7.7	1.8
2. Animal Science	2.1	1.3	0	0	1.4
3. Dairy Science	1.0	1.3	0	0	0.9
4. Not specified	7.2	21.8	11.8	7.7	12.4
Bachelor Degrees	98.7	61.7	100.0	88.3	84.0
A. Agriculture	90.6	53.9	94.1	73.0	75.7
Majors					
1. Agric. Econ.	12.4	11.5	23.5	23.1	14.2
2. Animal Science	26.8	7.7	35.3	11.5	18.8
3. Agronomy	12.3	3.9	11.8	11.5	9.1
4. Not Specified	39.1	30.8	23.5	26.9	33.5
B. Other Bachelor Degrees	8.1	7.8	5.9	15.3	8.6
Types					
1. Arts	3.0	1.3	0	11.5	3.1
2. Commerce	1.0	2.6	0	3.8	1.8
3. Education	0	1.3	0	0	0.4
4. Not Specified	4.1	2.6	5.9	0	3.0
Masters Degrees	17.7	1.3	23.6	53.8	16.5
Types					
1. Incomplete	5.2	0	5.9	3.8	3.3
2. FBM or Exten. Education	5.2	0	11.8	26.9	6.4
3. Other Ag. Econ.	2.1	0	5.9	15.4	3.2
4. Other Ag.	5.2	0	0	0	2.3
5. Bus. Admin.	0	1.3	0	7.7	1.4

respondent in answering the questionnaire.

Table 10 shows a breakdown of the skills by competency area and average rating of importance and use. This table summarizes one of the more important aspects of the study, and consequently it is worth examining at some length. Individual skills in each competency area are listed in order of descending importance and use within each score category, ranging from:

3.0 to 4.0 - skill is important and used on the job.

2.5 to 3.0 - skill is important but used less frequently on the job.

2.0 to 2.5 - skill may be in a specialist's area.

1.0 to 2.0 - skill is not important to the job of FBM counselling or at least should be a specialist's concern.

The rank order, from 1 to 133, of the individual skills rated by the 183 respondents used in the analysis is shown in Appendix D.

An examination of the data presented in Table 10 and Appendix D shows that there is a wide range in the preceived importance and use of the various skills on the DACUM chart. Following, are short summaries of how the skills in each competency area were rated and ranked.

The skills in competency area A were perceived as being particularly important. In fact, about one half of them were ranked in the top twenty of all 133 skills examined. The results suggest that communicating, counselling and interviewing clients is perceived to be a very important if not the most important area in FBM counselling.

The skills in competency area B were generally rated lower in importance and use than the skills in competency area A. Twelve of the skills are rated over 2.5, thus showing some importance and use to the

TABLE 10

AN ANALYSIS BY AVERAGE SCORE AND RANK ORDER OF THE FBM SKILLS RATED BY THE 183 RESPONDENTS ANALYSED

Competency Areas	Average Score Breakdown			
	3.0 to 4.0	2.5 to 3.0	2.0 to 2.5	1.0 to 2.0
A (Communicate, Counsel and Interview)	1,7,10,12,6,13, 3,11,9,4,2,5	8		
B (Plan, Implement & Evaluate Farm Management Training & Extension Programs)	6,3,8	5,9,7,1,12,4,11, 10,13	14,16,17,15,2	
C (Assist in Establishing, Maintaining and Utilizing Farm Records)	17,16,8,9,14, 10,15,11,12,18	7,4,3	13	5,2,6,1
D (Obtain & Manage Physical Resources)	3,2	7,10,5,4,9,6	1,8	
E (Advise on Financial Management)	3,6,4,1,7,8,9,12	10,11,5	2	
F (Develop & Evaluate Alternative Farm Business Plans)	1,2,7,5,6,4,8,11	9,10,3		
G (Advise on Management Implication of Laws and Legislation Affecting Farmers)		9,10,8,7,6	4,11,5,3,12	1,2
H (Advise on Marketing Strategy)		9,2,1	3,6,4,10,5,7,8,11	
I (Advise on Estate Planning and Business Arrangements)	3	4,5,2,9,1,6	7,8,10	
J (Inform and Advise on Concepts of Personnel Management)		3	5,11,12	6,10,13,1,4, 7,9,2,8
K (Inform and Advise on Business Management Concepts & Processes)	3,6,2,1,5	4		

NOTE: The numbers in the columns represent the individual skills that are outlined in the DACUM chart for FBM counselling in Appendix A. These numbers are arranged in descending order of importance from left to right for each competency area.

job of FBM counselling. An unexpected observation is that skills B2, B14, B15, B16 and B17 were rated less than 2.5 and ranked in the bottom one third of all the skills on the DACUM chart. This is unexplainable, in that skills B2, B15, B16, and B17, that is, the assessment of community leadership structure, the utilization of group processes and social action, the identification and utilization of learning processes, and the identification and utilization of regional difussion processes are usually considered essential for planning, implementing and evaluating all types of extension programs. It could be possible that respondents were considering the job of FBM counselling strictly in the sense of working directly with individual farmers and therefore assuming that the process of extension, as it is outlined in competency area B, has little relevance to counselling farmers in aspects of FBM.

There was a wide range in the ratings and rankings of the skills in competency area C. The skills ranked the least important generally dealt with the more technical aspects of record keeping, that is, the preparation and maintenance of the service and production accounts. In fact, four of these skills were ranked in the bottom twenty of all 133 skills examined. Alternatively, the skills rated and ranked the most important and useful generally dealt with the preparation of the financial accounts, such as, the balance sheet, the income statement and the enterprise accounts as well as the utilization of these and other records in making FBM decisions. In fact, seven of these skills were ranked in the top twenty in importance and use of all 133 skills examined.

The majority of the skills in competency area D were rated between 2.5 and 3.0. This suggests the skills in this area are "important but used less frequently on the job". The rankings of their importance and

use also suggests they are less important and useful than the skills in competency area A and the financial record preparation and utilization skills of competency area C.

Competency areas E and F are both considered important and useful areas in FBM counselling. The majority of the skills in these two areas were rated over 3.0, and a total of six skills were ranked in the top twenty for importance and use of all 133 skills examined. Therefore the results suggest that financial management and the development and evaluation of alternative farm business plans along with the skills of competency area A and those noted in competency area C are perceived to be the most important and useful skills in FBM counselling.

The skills in competency areas G and H were generally rated less than 2.5, thus suggesting that they "may be in a specialist's area". Some of the skills were rated over 2.5 thereby suggesting respondents perceived some use and importance for them. The data suggests that there are more important areas in FBM counselling than competency areas G and H, however these two areas should not be completely ignored in training programs.

The majority of the skills in competency area I were rated between 2.5 and 3.0, thus suggesting that respondents perceived them to be "important but used less frequently on the job". Due to the relatively complex and individualized skills needed in estate planning and business arrangements the results suggest that training programs should continue in this area because respondents perceive this to be a relatively important part of their jobs.

The skills in competency area J were rated and ranked the least important and useful of all the skills on the DACUM chart. In fact, eleven

of the thirteen skills were ranked in the bottom twenty of all 133 skills examined. The results suggest that training programs in FBM counselling need not include material on this competency area.

All the skills in competency area K, except for the skill to utilize computer application in FBM (K4), were rated over 3.0, thus suggesting they are perceived to be "important and used on the job". The skill to utilize computer applications in FBM was rated between 2.5 and 3.0, thereby suggesting it is "important but used less frequently on the job". It would appear that the skills in competency area K are perceived to be important and useful by the survey respondents.

The Competency Areas

The previous analysis centered around the perceived importance of the individual skills. In order to summarize further, the analysis of skill areas in FBM counselling, based on the notion of ranking by importance and use, Table 11 shows the rank ordering of the eleven competency areas. Generally, skills considered of greatest importance should be closely related to competency area rankings, but not necessarily. An important skill for example, might be contained in a competency area not considered particularly important.

As might be expected, there was found to be a high relationship between important skills and competency areas. The Table shows that the top four competency areas were A, E, C and F, dealing with communicating, financial management, record utilization and the development and evaluation of alternative farm business plans respectively. This was also discovered in the previous analysis by individual skills.

TABLE 11

AVERAGE RATING AND RANKINGS OF THE COMPETENCY AREAS ON THE DACUM CHART FOR FBM COUNSELLING BY ALL RESPONDENTS WITH AT LEAST BACHELOR DEGREES

Competency Areas	Average Score	Rank Order
A - (Communicate, Counsel and Interview)	3.797	1
B - (Plan, Implement and Evaluate Farm Management Training and Extension Programs)	2.824	7
C - (Assist in Establishing, Maintaining, and Utilizing Farm Records)	3.356	3
D - (Obtain and Manage Physical Resources)	3.075	5
E - (Advise on Financial Management)	3.474	2
F - (Develop and Evaluate Alternative Farm Business Plans)	3.144	4
G - (Advise on Management Implications of Laws and Legislation Affecting Farmers)	2.529	9
H - (Advise on Marketing Strategy)	2.472	10
I - (Advise on Estate Planning and Business Arrangements)	2.788	8
J - (Inform and Advise on Concepts of Personnel Management)	1.786	11
K - (Inform and Advise on Business Management Concepts and Processes)	2.875	6

Differences by Professional Category, Region of Canada and Years of Service

Whether there are significant differences between professional categories, regions of Canada and years of service in agricultural extension concerning the importance and use of the FBM counselling skills is

another important question.[1] The Spearman rank correlation coefficient test was used to determine these differences. Spearman rank correlation coefficients were calculated for the individual skills and the competency areas, using professional categories, regions of Canada and length of service as variables.

Using the t test for statistical significance discussed in Chapter III it was found that there were no significant differences between professional categories, regions of Canada, or respondent's length of service and all 183 respondents collectively in terms of perceived importance and use of the individual skills on the CACUM chart for FBM counselling In other words, neither professional category, regions of Canada nor length of service appeared to change the perceived rank order importance of the individual skills to the job. One could conclude that training emphasis can be similar for all groupings.

Analysis by competency area rather than by skills as above provided similar results with two exceptions. The Quebec and SFDP groupings differed significantly from the group of all 183 respondents taken together. The Quebec group rated competency areas C and F less important, and G and H more important than all 183 respondents taken as a group, thereby indicating some modification of future training programs. Speculation on reasons for this difference lead to the possible conclusion that in Quebec, university training is considerably more FBM and extension oriented with FBM courses, extension methods courses and on the job apprenticeship being mandatory. In the case of the SFDP group, information on competency area ranking was considered insufficient to make any assertions

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[1] The different professional categories are explained on p. 41. The regions of Canada were analyzed as follows; B.C. and the Prairies, Ontario, Quebec, and the Maritimes, Canfarm, FCC and the SFDP were also analyzed as individual groups and compared with the other groupings. The length of service groupings were; 1-3 years, 4-10 years and 10 plus years.

because only two respondents rated the competency area section.

It should be noted that the ranking of the importance and use of the 133 individual skills and the eleven competency areas was done significantly similar by the 183 questionnaire respondents as by the supervisors that were interviewed personally.

Perceived Skill Acquisition Sources

All respondents were asked to indicate where they acquired competency in the FBM counselling skills outlined in the DACUM chart for FBM counselling. The following four sources were suggested:

A. University. B. Inservice training programs.

C. On the job. D. Competency not acquired.

However it was later found necessary to add a fifth indicator, E, which means the skill was acquired through a combination of A, B, and/or C. In other words it can be assumed that the respondents had some difficulty in concluding where they attained skill competency.

Table 12 shows a summary of perceived sources of skill acquisition, stratified by competency area. Table 12 has been aggregated to show the responses of all 183 respondents taken as a group. A professional category breakdown was also done but there were few differences in skill acquisition between professional categories. Those differences that were found are discussed later. It can be seen from Table 12 that on the job acquisition of competence is considered by far the most important in all competency areas except perhaps competency areas G and J. In both of these areas it can be seen that the "competency not acquired" category is quite high and may suggest a training need although it should be remembered that these competency areas were not rated or ranked as too important to the job of FBM counselling.

University and inservice training were not given very much credit

TABLE 12

PERCEIVED SKILL ACQUISITION BY COMPETENCY AREA FOR ALL 183 RESPONDENTS
(in percentages)

Competency Areas	University	Inservice Training	On the Job	Not Acquired	Combination
A. (Communicate, Counsel and Interview)	7	19	60	10	4
B. (Plan, Implement and Evalulate Farm Management and Extension Programs)	17	16	45	21	1
C. (Assist in Establishing, Maintaining and Utilizing Farm Records)	23	19	40	12	6
D. (Obtain and Manage Physical Resources)	29	11	44	13	3
E. (Advise on Financial Management)	18	17	55	5	5
F. (Develop and Evaluate Alternative Farm Business Plans)	23	17	46	6	8
G. (Advise on Management Implications of Laws and Legislation Affecting Farmers	7	22	36	32	2
H. (Advise on Marketing Strategy)	18	9	55	5	3
I. (Advise on Estate Planning and Business Arrangements)	13	26	43	17	1
J. (Inform and Advise on Concepts of Personnel Management)	4	8	39	47	2
K. (Inform and Advise on Business Management Concepts and Processes)	22	15	49	6	8

for skill acquisition in any of the competency areas. This result is perhaps explained by the fact that the question asked the respondents was "Where did you acquire competence in this skill?". This may have suggested to respondents to think of the first time they used this particular skill and therefore answered with "on the job". However, if the question were worded "Where did you acquire competence in the underlying principles behind this skill as well as the ability to actually peform it?", there may have been higher response rates in the university and inservice training categories. This result suggests that the CAP system, discussed in Chapter II, of dividing each skill into required levels in each of the cognitive, affective and psychomotor domains of learning would have presented a better way of wording this question.

Table 13 presents the competency areas in which more than 25% of each professional category acquired competence at either university or at inservice training programs. Analyzing the figures in Table 13 it would appear that general agricultural extension workers are the only respondents that regard their inservice training to be relatively more important and useful than their university training. The other professional categories considered their university training relatively more important and useful in most areas.

It is also interesting to examine the competency areas in which professional categories feel they are incompetent. Table 14 lists the competency areas in which 25% or more of the respondents in each professional category felt they had not acquired competence as well as the importance and use ranking of the competency areas.

It is evident from Table 14 that there are several competency areas in which at least 25% of the respondents in each professional cate-

TABLE 13

COMPETENCY AREAS IN WHICH 25% OR MORE OF EACH PROFESSIONAL CATEGORY FEEL THEY ACQUIRED COMPETENCE FROM EITHER UNIVERSITY OR INSERVICE TRAINING

Professional Category	Competency Area and Percentage of Each Professional Category in which competence was acquired from: University	Inservice Training
General Agricultural Extension Workers	no competency areas	B - 25 E - 29 F - 26 G - 43 I - 45
Farm Credit Advisors	C - 30 D - 30 K - 30	no competency areas
FBM Counsellors	D - 31 H - 36	C - 33
FBM Resources Specialists	B - 27 C - 33 D - 33 F - 33 K - 29	no competency areas

TABLE 14

COMPETENCY AREAS AND IMPORTANCE AND USE RANKINGS IN WHICH 25% OR MORE IN EACH PROFESSIONAL CATEGORY FEEL THEY ARE INCOMPETENT

Professional Category	Competency Areas and Percentage of Each Professional Category in Which They Feel Imcompetent	Importance and Use Ranking
General Agricultural Extension Workers	J - 45	11
Farm Credit Advisors	B - 32	8
	G - 46	10
	J - 54	11
FBM Counsellors	B - 34	8
	J - 47	10
FBM Resource Specialists	G - 38	8
	I - 25	7
	J - 42	11

gory do not feel competent. It is of particular concern when a competency area is rated high in importance and has not been acquired by a significant percentage of the workers in each competency area. It can be seen, however, that most of the competency areas with more than 25% incompetence in any one professional category are ranked quite low in importance and use by that professional category. The only possible exception to this is the case of competency area I and the FBM resource specialists. Competency area I was ranked seventh in importance and use by the FBM resource specialists but has a 25% non competency rating. This may represent a rather urgent need for training. All the other competency areas with signi-

ficant levels of non competence also represent training needs but at a lower level of priority since they were ranked lower in importance and use.

It was evident in Table 11 that competency areas A, C, E and F were considered the most important and useful by all 183 respondents taken as a group. The range of the percentage of respondents in each professional category indicating a lack of competence in these areas is listed below:

Competency Area A - from 9% of farm credit advisors and FBM resource specialists to 12% of FBM counsellors.

Competency Area C - from 7% of FBM resource specialists to 18% of the general agricultural extension workers.

Competency Area E - from 1% of FBM counsellors to 10% of general agricultural extension workers.

Competency Area F - from 2% of FBM counsellors to 8% of general agricultural extension workers.

The analysis suggests that there is little non competence in the important and useful areas of FBM counselling.

Perceived Importance of University Courses

Respondents were asked to indicate the approximate percentage of time spent while at university and the importance and use to the job of FBM counselling of the various types of university courses outlined in Table 15. The scale used to rate the importance and use of the different university course types to the job of FBM counselling is the same as the one presented on page 41.

Table 15 shows the average time spent, in percentages, the average

TABLE 15

UNIVERSITY COURSE TYPE - TIME SPENT WHILE AT UNIVERSITY AND IMPORTANCE TO THE JOB OF FBM COUNSELLING FOR ALL 183 RESPONDENTS TAKEN AS A GROUP

University Course Type	Time Spent While at University		Importance to the job of FBM Counselling	
	Average Percent	Rank Order	Average Percent	Rank Order
1. A. Quantitative Methods	7.3	6	2.085	12
B. Agribusiness Management	4.8	11	2.516	8
C. Farm Business Management and Production Economics	10.9	3	3.564	1
D. Rural Sociology and Extension	7.0	9	2.872	5
E. Natural Resource Economics	3.9	14	2.0	13
F. Policy and Development	4.4	13	2.190	10
G. Marketing and Trade	5.9	10	2.592	7
2. Other Related Social Sciences	7.1	8	2.128	11
3. General Economics and Business	10.3	4	2.988	4
4. Agricultural Engineering	7.2	7	2.191	9
5. Animal Science	22.5	1	3.116	2
6. Entomology	4.6	12	1.965	14
7. Plant Science	14.1	2	3.042	3
8. Soil Science	8.3	5	2.812	6

NOTE: Course type 9 (other) had many diverse answers thus making it worthless to analyze.

rating of importance, the ranking of time spent while at university, and the ranking of the importance and use to the job of FBM counselling of the various university course types listed. Analysis of the data presented in Table 15 suggests that respondents feel that FBM and Production Economics, Animal Science, Plant Science, General Economics and Business and

Rural Sociology and Extension are the most important and useful types of university courses. Table 15 also shows that these course types usually had the highest amount of time spent on them while at university. In fact, the Spearman rank correlation coefficient between the rankings of time spent while at university and importance and use of the course types to the job was found to be .769 and thereby significant to the .01 level.

This analysis suggests two possible conclusions. The first, is that the course types listed in the paragraph above are genuinely considered to be important and used on the job. The second possible conclusion is that they preceive the course types concentrated on while at university to be important to the job because they have little personal interest in the subjects outlined by the other course types.

Differences by Professional Category, Region of Canada and Length of Service

An analysis of the data presented in Table 15 was also conducted by subdividing the data into professional categories, regions of Canada and length of service groupings. The Spearman rank correlation coefficient test with its corresponding t test was then applied between the rankings of university course type importance and use by the various respondent groupings and all 183 respondents taken as a group. It was discovered that each respondent grouping ranked the importance of the various university course types the same as all 183 respondents taken as a group.

Inservice Training

All respondents were asked to indicate; 1) the number of days of inservice training they have had in the last three years, 2) it's importance to the job of FBM counselling, and 3) the need for further training in each of the competency areas outlined in the DACUM chart for FBM coun-

selling. The scales they were asked to use to rate the importance of past inservice training and the need for future training are outlined on page 41. The results were averaged and ranked and are presented in Table 16.

The data presented in Table 16 suggests:

1) That the average days of past inservice training are not very high in all competency areas. The average figures have been calculated from only those responses with some indication of past training days, that is to say, the blank responses were not calculated into the average. Since there were many blank responses, the average figures shown are probably larger than they should be The figures therefore indicate a possible deficit of inservice training in the competency areas of FBM counselling in the past three years.

2) That all 183 respondents taken as a group rated only competency areas A, E, C and F over 3.0 when dealing with the importance of past inservice training. Competency area J was the only competency area with an average rating of less than 2.5. The results suggests that past inservice training, in general is considered important especially in competency areas A, E, C and F, but not so for competency area J.

3) That there are no competency areas in which there is a great perceived need for future training. However, competency areas E, A, I, C, F and G were all rated over 2.5 and ranked form one to six respectively, thus indicating that there is a degree of felt need for future training in these areas. Competency areas H, D, B, K and J were all rated less than 2.5 and were ranked seven to eleven respectively, thus indicating only a minor perceived need

TABLE 16

INSERVICE TRAINING - DAYS RECEIVED, IMPORTANCE TO JOB, AND TRAINING NEEDED AVERAGE SCORES AND RANKINGS BY ALL RESPONDENTS WITH AT LEAST BACHELOR DEGREES

Competency Areas	Days		Importance		Future Need	
	Average Score	Rank Order	Average Score	Rank Order	Average Score	Rank Order
A -(Communicate, Counsel and Interview)	6.3	1	3.723	1	2.828	2
B -(Plan, Implement, & Evaluate Farm Management Training & Extension Programs)	5.2	4	2.814	6	2.357	9
C -(Assist in Establishing, Maintaining, & Utilizing Farm Records)	5.5	3	3.348	3	2.724	4
D -(Maintain And Manage Physical Resources)	4.3	6	2.773	7	2.414	8
E -(Advise on Financial Management)	4.4	5	3.567	2	2.957	1
F -(Develop and Evaluate Alternative Farm Business Plans)	4.1	7	3.232	4	2.720	5
G -(Advise on Management Implications of Laws and Legislation Affecting Farmers)	3.3	10	2.634	10	2.57	6
H -(Advise on Marketing Strategy)	3.3	11	2.688	9	2.477	7
I -(Advise on Estate Planning and Business Arrangements)	3.5	9	2.963	5	2.816	3
J -(Inform and Advise on Concepts of Personnel Management)	6.0	2	2.057	11	1.972	11
K -(Inform and Advise on Business Management Concepts & Processes)	3.7	8	2.724	8	2.354	10

for futher training in these areas.

The Spearman rank correlation test with its corresponding t test was then applied between the rankings of days spent on inservice training, importance and use of this past inservice training and the need for future inservice training. The results are as follows:

1) There was only moderate positive correlation between the rankings of days of past inservice training and the importance of this inservice training to the job of FBM counselling. This result, which is only significant to the .2 level, suggests that past inservice training may not have been concentrated on some of the areas the respondents perceive most important and useful.
2) There was almost no correlation between the rankings of days spent on past inservice training and the need for future inservice training. This result suggests that past inservice training, in volume at least, has not satisfied the need for future inservice training. If past inservice training had satisfied this need there would have been a large negative correlation between the rankings.
3) There was a high positive correlation between the rankings of the importance and use of past inservice training and the need for future inservice training. This result suggests that respondents want future inservice training to be in the same areas as the important and useful past inservice training. It also follows from the earlier analysis of skill needs that these areas are basically the same areas that were considered most important and useful to the job, that is, competency areas A, C, E and F.

Differences by Professional Category
Region of Canada and Length of Service

An important question that should be answered is whether or not there are substantial differences in perceived inservice training needs between professional categories, regions of Canada and length of service. The Spearman rank correlation coefficient test and it's corresponding t test were applied to combinations or rankings of the need for future in-service training by the various respondent groupings and all 183 respondents taken as a group. It was discovered that all but four of the respondents groupings ranked the need for future inservice training significantly the same as all 183 respondents taken as a group. The exceptions were; the Canfarm, the FBM resource specialists, the SFDP and the Quebec groupings. All of these groups ranked competency area K closer to one and therefore more needed than did all 183 respondents taken as a group. Each of these groupings also ranked other competency areas quite differently from the group of all 183. Following are these competency areas;

Respondent Groupings	Competency areas ranked closer to one and therefore suggesting a greater felt need for future training.	Competency areas ranked closer to eleven and therefore suggesting a lesser felt need for future training.
Canfarm	B, K	A, G, I
FBM Resource Specialists	B, K	C, G
SFDP	D, K	C, E, G
Quebec	J, K	E, G

Other Courses of Assistance in Farm Business Management Counselling

Question 6 of the questionnaire read; "Please elaborate on any other courses that you have taken that assist you in your work in FBM

counselling but have not been covered so far in the questionnaire?". The responses are summaried in Table 17.

TABLE 17

OTHER COURSES OF ASSISTANCE IN FBM COUNSELLING

Course Types	Number of Responses
University (usually taken on a part time basis)	
FBM	14
Extension	10
Other (Marketing, etc.)	7
Inservice Training	
Informal Staff Meetings	4
FBM	20
Taxation	3
Extension	12
Other Inservice Training	3
Other	
Appraisal Institute of Canada	17[a]

NOTE: The numbers do not stand for respondents, but the number of times the item was mentioned, that is one respondent could suggest more than one item. Many of the courses mentioned had specific titles which were dropped or grouped together for analysis purposes.

[a] All 17 are FCC Farm Credit Advisors.

Respondents Suggestions for Future Training of Farm Business Management Counsellors

It can be seen from Table 18 that most of the suggestions for future training included more practically oriented training, with emphasis on the communication and interviewing skills. The suggestions for practical training ranged from, including it in university courses, to incorporating it as part of inservice training, to the suggestion that a person could not be a good FBM counsellor unless he was born and raised on a farm. Two respondents suggested that FBM workers be given some form of study leave every few years. This leave could be spent working on a farm to keep in contact with management at the farm level. The suggestion for future training in communications and interviewing skills echoes much of what has been discovered in the analysis.

Table 18 analyzes the respondents' suggestions in an efficient but rather cold and lackluster manner. It was evident upon reading over the answers to this question that emotions were involved. It would be repetitious to list all their comments here, however there are some that do bear repeating.

Several suggestions dealt with the importance of the communicating, counselling, and interviewing skills of competency area A. The following comments perhaps best sum the general feelings.

> i) Perhaps the greatest weakness in all training is in the area of people oriented training. How to listen, how to bring out real needs and wants, how to help identify family or individual goals, or encourage people to seek them. So often it is not what training we have received that helps us serve clients but how we go about it that results in a successful service.

TABLE 18

RESPONDENT'S SUGGESTIONS FOR THE FUTURE TRAINING OF FBM COUNSELLORS

Types of Suggestions	Number of Responses
Practical experience (at university, in inservice training and in personal background)	46
Study Leave (to keep in touch with real life farming)	2
More Courses (both at university and at inservice training):	
Production Economics	4
Business Management	11
Agricultural Economics in general	2
Communication & Interviewing Skills	33
Extension Methods and Sociology	8
Farm Records and Analysis	9
Law	6
Estate Planning	4
Taxation	7
Money Management	6
Frequent Up-date sessions	5

NOTE: The numbers do not stand for respondents, but the number of times the item was suggested, that is to say, one respondent could suggest more than one item.

ii) More careful selection of counsellors. Some of those chosen may know farm business management processes but do not give the farmer a chance to express himself prior to counselling... Must have natural ability to communicate.

iii) Be practical and be able to establish rapport with clients. This is what counsellors should be taught. All the knowledge in the world is not worth a "tinker's damn' if the counsellor cannot get the client's confidence.

iv) In depth farm management counselling inevitably involves the knowledge of human relationships, as often the problem hinges on human factors as well as, or rather than, economic and management factors.

v) Box A12 is to me the most important box of the whole chart. Without A12, ie., client motivation, nothing else matters, that is to say, the other boxes will not be used in helping to motivate the client because many are important in motivation.

Practical education and training is a major concern of many respondents and is perhaps summerized best in the following comments.

i). The main suggestion I have is to refrain from theory as opposed to practical experience. A farm background is almost a necessity in order to assess a farm, the operator and his ability. I spent four years taking in theory at university but I found that my farm upbringing was more valuable than my university education. You need the theory but farmers are very annoyed at advisors who advise from pat answers in a book.

ii) Farm Business Management Counsellors should be required to take leave from their department every 5-10 years, in order to work on a farm, on all aspects of practical farm management. Many farm management counsellors are too theoretical. They can run a business on paper but not in practice. If the counsellor isn't a knowledgeable and successful manager himself, then he shouldn't be advising others how to manange.

iii) Experience is a very good teacher; this coupled with formal education and a 'whole lot of plain ordinary common sense' is a good combination.

iv) If they (FBM counsellors) don't have a real understanding of the day to day activities of farmers, the usefulness of their services will be greatly reduced.

Many respondents think that this practical education is the responsibility of the universities.

i) University courses at an undergraduate level should be more practical, dealing more with farms for extension and management purposes as well as giving a sound basis in theory.

ii) A more practical approach. Less emphasis on the pure agricultural sciences and theoretical studies, eg., statistics, computer programming, mathematics; and a greater emphasis on farming at the grassroots level. Actual experience of farming is invaluable when communicating with farmers.

iii) The graduate courses I have taken were not on a sufficient practical level.

The following comments suggest how this 'practical' education should be approached.

i) Let's depolarize the 'practical - theoretical' syndrome. We should recognize theory and basic principles as necessary conditions within which the practical approach is taken to solve problems.

ii) I feel that university training should be some what general; on the job experience and short courses will provide training in specific areas, eg., farm records, farm transfers, and business arrangements.

Many respondents had some rather interesting suggestions as to how training of FBM counsellors should be carried out. Naturally not all the comments could be included, but some of the more interesting ones are listed below.

1. A special FBM counselling course should be set up.
   I think it is impossible for universities to expect that they can train good farm business management counsellors since they attempt to give a broad base of knowledge for any type of agriculture job. Four years is too short to turn out 'experts' in every area. Instead I would like to see a recognized farm business management course established to the four western provinces that would train staff when they begin their jobs. They could take a two to three month 'leave of absence' or call it 'inservice training' go to this central school for farm business management counsellors and learn nearly all aspects of farm business management before actually starting their farm management jobs.

2. Should use actual farm managers and management specialists at the university level.

I believe we must start making more use of actual farm managers and management specialists in the field at the university and college level. It is these people who know what the student will be facing and can expose them to the practical side.

3. Recommend a form of apprenticeship or on the job training.

i) My only suggestion is the inclusion of on the job training as part of the requirement of a university degree. The isolated campus training is no substitute for work experience.

ii) It would be most beneficial both to employers and graduates if all students were compelled to article prior to receiving their diplomas as they do in other professions.

iii) This makes me think that on the job training is most important in this and in many other fields. University training provides us with concepts and hopefully developes the ability to learn, to analyze, to organize, to evaluate etc. Much of what we need must be learned on the job. Should we have counsellors or tutors who would work with individuals, would assess the work of these individuals, and offer suggestions for improvement. If we are learning at college, there are professors to point out our errors. On the job, where most of our training takes place, there is often no one to critisize constructively.

4. DACUM material may be key to training.

i) The DACUM approach, developed fully, with self testing

in each of the skills necessary to a particular job should enable all FBM counsellors to fulfill skill A11 (Recognize Need For and Implement Personal Updating Program). The result should be a demand for material, seminars, or courses which will provide for the fulfillment of training needs on the job or inservice when the massive undertaking of providing material or packages is completed, employees will have to be sold on providing some time each year for upgrading.

ii) If counsellors could take the material in the DACUM chart they would not have to go to university.

5. Training should include:

i) They (inservice training courses) should be 8 hours per day dessions with workshops and homework, also grades could be considered.

ii) Too often a course is put on and the person doesn't go back home and use it. Prospective course attenders should be required to find a problem, work on it and come to the course with their problems.

iii) Inservice training in areas of crops, livestock, engineering, etc., are very important for the farm management counsellor.

iv) Insist that farm business management counsellors take courses in animal, plant, and soil science as well as economics, when attending university. Provide a balance of inservice training and back to university updates on each area of competence. It may be possible to learn skills through home study of information available.

v) Future counsellors need a good general training in crop and livestock production and agricultural economics prior to specialization.

Finally, there were a few comments that were different from the others, but may show how many professionals working in the area of FBM counselling feel.

1. University is for learning how to learn.

   On the job training would appear to be the most effective. University programs need to teach us how to learn, that is not teach subject matter to the exclusion of learning how to learn.

2. Universiy's training not all bad.

   I came out of university, understanding the principles of agricultural extension and rural sociology. My experience on the job and at inservice training sessions has been built on this base of knowledge and the basic principles still guide me in my day to day encounters. So, for me, this route has been quite satisfactory.

3. Farm Management is a package.

   Farm Management is building a package. None of us can become knowledgeable or totally competent in all of its broad aspects. Extension agents may develop one or two specialties but we are actually consultants who must determine what a client's needs really are, where to go for assistance, who can provide competent advice, and assist in aiding him to tie the package together. Co-operating and communicating with other professional people is most important; be it legal, accounting, financial, productive, markets, etc.

CHAPTER V

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

Summary

Skill needs and training programs for professionals working in the area of FBM counselling in Canada were investigated and analyzed. First, university education relating to FBM at the eight Canadian universities offering courses towards degrees in agriculture was analyzed for its quality and quantity. Secondly, inservice training programs and philosophy relating to FBM at the ten provincial departments of agriculture as well as FCC, Canfarm and the SFDP were described. Finally, professionals working in the area of FBM counselling in Canada were asked to indicate; 1. what they felt were their skill needs, 2. where they acquired these skills, 3. how important their university education is in fulfilling the requirements of their jobs, 4. how important their past inservice training is to fulfilling the requirements of their job, and 5. what future inservice training they feel they need. This information was gathered by interviewing representatives from each university and government agency as well as sending out a questionnaire to a representative sample of professionals working in the area of FBM counselling in Canada.

Conclusions

Farm Business Management Education at Universities

It can be concluded upon reviewing the literature dealing with university education, visiting the various institutions and studying the courses offered, that in general, university undergraduate education in FBM provides an adequate base upon which the graduate can further

specialize and expand. The universities concentrate on the principles and basic concepts needed in FBM counselling, within the context of a general agricultural economics education at the bachelor level.

The FBM counselling skills taught at the universities visited are usually included in the FBM and related courses. All the universities offer at least one FBM course which they recommend students interested in the subject elect, however, most universities do not require agricultural economics students to take these courses. The size of these FBM classes is increasing at most universities. They include non agricultural economics majors, thus showing a growing interest in the subject, especially as a complement to other fields of interest. It appears the only FBM counselling skills not covered in most of the FBM courses are those in competency area A (Communicate, Counsel, and Interview) and B (Plan, Implement, and Evaluate Farm Management Training and Extension Programs). These skills usually warrant special courses of their own, however, courses in these areas are usually not offered to or required by students interested in FBM.

A questionable area in university FBM education is the tendency to concentrate a great deal on one of the latest tools in FBM, the computer. The advantages of using linear programming and other computer models in demonstrating to the student the many interrelationships involved in FBM cannot be disputed. However, requiring students to build linear programming and other computer models, no matter how simple, in lieu of more concentration on the principles and concepts that will be used more on the job, appears questionable. Skill K4, utilize computer applications in FBM, was ranked quite low and unimportant by all respondent groupings, other than FBM resource specialists and Canfarm employees,

and even they ranked it fortith and thirty-third respectively. It can be concluded that the skill involving applications of computer models is not considered important by professionals working in the area of FBM counselling and therefore should not be over emphasized in their training. The literature reviewed stated that undergraduate education should avoid too much specialization. A high concentration on any one or a group of tools may constitute over specialization. The literature also stated that undergraduate education should involve itself with the teaching of principles and basic concepts, installing within the student the desire to learn more about his field of interset. Over emphasis of a mere tool takes valuable time away from the learning of the more important and usable aspects of FBM counselling.

Farm Business Management Inservice Training at Government Agencies

It can be concluded upon reviewing the literature and visiting the various government agencies, that inservice training in FBM counselling in Canada is not meeting its potential for training FBM counsellors in needed on the job skills. Two facts that add merit to this conclusion are; 1. that only 14% of the respondents indicated they had degrees with majors in Agricultural Economics, thus implying a need for further training in this area, and 2. that an average of less than 20% of the respondents said they acquired competence in the FBM skills from inservice training. It should also be noted that the experts with the OECD recommended a three month comprehensive FBM course to new staff and no FBM course less than two weeks in duration.[1] It was found that the majority

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[1] Advisory Work in Farm Management, OECD No. 77, pp. 120-121.

of these government inservice training courses were the shorter two to three day sessions on specific subjects in FBM, exactly what the OECD condemns. This fact does not necessarily condemn FBM inservice training at government agencies to mediocrity, however, it may be a contributing factor to its low rating in skill acquisition.

Survey of Agency Professionals

Skill Needs

It can be concluded from the analysis in Chapter IV that respondents generally feel that most of the skills on the DACUM chart for FBM counselling are important and used. In fact, the skills in competency areas, A, C, E and F were rated and ranked the most important and useful, whereas the skills in competency area J and many of the skills in competency areas G and H were rated and ranked as being the least important and useful. There were no significant differences between the rankings of the individual skills by the respondent groupings and only the Quebec and SFDP groups ranked the importance of the competency areas significantly different from all 183 respondents taken as a group.

Skill Acquisition

All respondents felt they acquired most of their FBM counselling skills while working on the job, and very little at university or inservice training. A possible reason could be that the question did not give the respondent an opportunity to state where he acquired competence in the underlying principles for each skill. If this were done, university and inservice training would most likely be rated much higher.

It is for this reason that the CAP system of competency-based training, discussed in Chapter II, should have been used and should be used in any future study of skill needs and training program, especially when dealing with professional occupations. The CAP process has the capacity for dealing with underlying principles and basic concepts by dissecting each skill into various levels of competency required within the cognitive, affective and psychomotor domains.

Relatively few respondents, averaging around 8% reported a lack of competence in competency areas that were ranked high in importance and use. Higher rates of noncompetence were reported, averaging around 35% in those competency areas ranked lower and less important to the job of FBM counselling. It can be concluded therefore that respondents generally feel competent in those skills they perceive as important and used more frequently on the job.

Perceived Importance of University Course Types

A major conclusion stemming from the analysis in Chapter IV of the importance and use of the various university course types to the job of FBM counselling is that all respondent groupings ranked the course types significantly the same as all respondents with at least bachelor degrees taken as a group. All respondent groupings also ranked FBM and production economics, animal science, plant science, general economics and business, and rural sociology and extension courses the top five in importance and use. This could be interpreted as a reflection of the respondent's selected major courses while at university since it was found that a high degree of correlation existed between the rankings of course type emphasis while at university and course type importance and use on the job. However, this can also be construed as an indication that professionals

working in the area of FBM counselling require courses in animal science, plant science, general economics, and extension education in addition to FBM courses to properly fulfill the commitments of their jobs. This particular conclusion however needs further research for complete verification.

Inservice Training

The results of the analysis of inservice training in Chapter IV indicate that respondents as a whole perceive their past inservice training in areas of FBM as important to the job and that the need for future training is not urgent, but required in most areas. The results also indicate that if a competency area is ranked high in importance and use to the job of FBM counselling it will also be ranked high in importance of past inservice training and high in need for future inservice training. Finally, the results indicate that the rankings of these variables by all 183 respondents with at least bachelor degrees taken as a group represent all respondent groupings except the Quebec, FBM resources specialist, Canfarm, and SFDP groups. Therefore it can be concluded that further training is wanted in competency areas E, A, I, C, F and G and one can add competency areas B and K for the Canfarm and FBM resource specialist groups, competency areas D and K for the SFDP staff, and competency areas J and K for the Quebec group.

Recommendations

University Education

1) That the universities offering courses towards degrees in agriculture continue to offer the courses related to FBM counselling with their present content. However, these universities should be conscious

of the problems of teaching the use of mere tools (the computer) if this means tranferring valuable time from the teaching of basic principles and concepts.

2) That FBM majors be required to take courses in animal science, plant science, general economics and business, and rural sociology and extension in addition to FBM and production economics.

Inservice Training

1) That the people responsible for inservice training seriously consider the remarks made in Chapters II and IV. A comprehensive FBM inservice training program should be organized on a regional basis throughout Canada. The course should include competency-based occupational training materials (DACUM and CAP) and follow the OECD recommendations according to format. Its objective would be to take recent graduates now working in the area of FBM counselling and teach them the important skills they will need. All types of professionals working in FBM should be encouraged and allowed to attend, since it was discovered that all respondent groupings ranked their training needs significantly similar. The course could be organized on a regional basis such as; British Columbia and the Prairies, with a possible location at Olds, Alberta; Quebec, with a possible location at Laval University, Quebec City; Ontario, with a possible location at Guelph, Ontario; and the Maritimes, with a possible location at Truro, Nova Scotia.

2) That the further training of experienced FBM counsellors be handled by giving them access to the competency-based materials for individualized learning being produced by the FBM training project of the CFMC. Special courses lasting a couple of weeks, should be organized

on a yearly and regional basis, perhaps at the same locations as mentioned above, for problem areas that many arise.

3) That future FBM training be practically oriented and include material on communications, counselling and interviewing as well as competency areas C, E, F, I, G and K.

General

1) That the CFMC seriously consider adopting some of the features of the CAP process into their DACUM training project. The CAP feature that warrants special attention is the aspect of using the cognitive, affective, and psychomotor domains of learning when developing the performance objectives for each skill.

2) That research be continued in the area of skill needs and training programs for professionals working in the area of FBM counselling because the needs and scope of this profession are changing rapidly.

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Appendix A

DACUM Chart for Farm Business Management Counselling

A	LISTEN A1	PREPARE BUSINESS CORRESPONDENCE, REPORTS AND BRIEFS A2	RECOGNIZE AND USE CONVERSATIONAL ETIQUETTE A3	PLAN, PREPARE AND PRESENT VERBAL INSTRUCTIONS A4	IDENTIFY BARRIERS AND BREAKDOWN IN COMMUNICATION A5	CREATE RECEPTIVE ATMOSPHERE A6
COMMUNICATE, COUNSEL AND INTERVIEW	ESTABLISH RAPPORT WITH CLIENTS A7	USE CONFERENCE LEADERSHIP SKILLS A8	CONDUCT INTERVIEW SESSIONS A9	SPEAK EFFECTIVELY A10	RECOGNIZE NEED FOR AND IMPLEMENT PERSONAL UPDATING PROGRAM A11	IDENTIFY NEEDS, CIRCUMSTANCES AND MOTIVATION OF CLIENTS A12
	RECOGNIZE AND IMPROVE UPON PERSONAL COMMUNICATION LIMITATIONS A13					
B	WORK WITH FARM ORGANIZATIONS B1	ASSESS LEADERSHIP STRUCTURE OF COMMUNITY B2	ANALYZE AND UTILIZE FARMER SOURCES OF INFORMATION B3	CONDUCT NEEDS ANALYSIS B4	COLLECT AND ANALYZE INFORMATION B5	IDENTIFY NEEDS PRIORITIES B6
PLAN, IMPLEMENT & EVALUATE FARM MANAGEMENT TRAINING AND EXTENSION PROGRAMS	CREATE EFFECTIVE PROGRAMS FOR IMPLEMENTING CHANGE B7	FORMULATE AND CARRY OUT PROGRAMS B8	IDENTIFY AND SELECT RESOURCES B9	PREPARE PROGRAM SCHEDULES B10	IDENTIFY, SELECT AND USE EVALUATION TECHNIQUES B11	ANALYZE EVALUATION RESULTS B12
	SELECT METHODS OF TRAINING B13	SELECT AND UTILIZE A/V AIDS PRESENTATIONS B14	UTILIZE GROUP PROCESS AND SOCIAL ACTION B15	IDENTIFY AND UTILIZE LEARNING PROCESSES B16	IDENTIFY AND UTILIZE REGIONAL DIFFUSION PROCESSES B17	
C	PREPARE AND MAINTAIN CLIMATIC RECORDS C1	PREPARE AND MAINTAIN FARM MACHINERY AND SERVICE RECORDS C2	PREPARE AND MAINTAIN LIVESTOCK RECORDS C3	PREPARE CROP PRODUCTION RECORDS C4	PREPARE AND MAINTAIN PAYROLL RECORDS C5	PREPARE AND MAINTAIN LABOUR USE RECORDS C6
ASSIST IN ESTABLISHING, MAINTAINING AND UTILIZING FARM RECORDS	SET UP AND MAINTAIN FILING SYSTEMS C7	PREPARE A LIST OF ASSETS & LIABILITIES C8	PREPARE INCOME STATEMENT C9	MAINTAIN RECORD OF INCOME AND EXPENSES C10	PREPARE AND MAINTAIN CREDIT RECORDS C11	PREPARE ENTERPRIZE COST AND RETURN RECORDS C12
	PREPARE INCOME TAX RETURNS C13	PREPARE NET WORTH STATEMENT C14	PREPARE CASH FLOW STATEMENTS C15	ANALYZE FARM RECORDS TO IDENTIFY STRENGTHS AND WEAKNESSES C16	UTILIZE AND APPLY FARM RECORDS IN BUSINESS DECISIONS C17	IDENTIFY AND SELECT ACCOUNTING SYSTEMS C18

D — OBTAIN AND MANAGE PHYSICAL RESOURCES

ADVISE ON ECONOMIC IMPLICATION OF FARM LAYOUT D1	ADVISE ON ECONOMIC IMPLICATION OF CROP MANAGEMENT PRACTICES D2	ADVISE ON ECONOMIC IMPLICATIONS OF LIVESTOCK PRACTICES D3	ADVISE ON ECONOMIC IMPLICATIONS OF SOIL-WATER MANAGEMENT PRACTICES D4	ADVISE ON USE OF PERSONAL TIME AND TIMELINESS OF OPERATIONS D5	ADVISE ON MACHINERY-LABOUR COMBINATIONS D6
ADVISE ON MAKING MACHINERY MANAGEMENT DECISIONS D7	ADVISE ON APPRAISAL TECHNIQUES D8	ADVISE ON LEASING AND RENTAL ARRANGEMENTS D9	ADVISE ON ALTERNATE METHODS OF RESOURCE ACQUISITION D10		

E — ADVISE ON FINANCIAL MANAGEMENT

CALCULATE CREDIT COSTS E1	ASSIST IN INSURANCE PLANNING E2	ADVISE ON LOAN APPLICATION AND NEGOTIATION E3	ASSIST IN PREPARATION OF CASH FLOW PROJECTIONS E4	ADVISE IN CONTINGENCY PLANNING IN EMERGENCY SITUATIONS E5	ASSESS CREDIT NEEDS E6
EVALUATE AND RECOMMEND ON REPAYMENT ALTERNATIVES E7	COMPUTE AND EXPLAIN FINANCIAL STATEMENTS E8	EVALUATE AND RECOMMEND ALTERNATIVE FINANCIAL SOURCES E9	ADVISE ON TAX MANAGEMENT E10	ADVISE ON FINANCIAL IMPLICATIONS OF BUSINESS STRUCTURE E11	ASSIST IN CAPITAL BUDGETING E12

F — DEVELOP AND EVALUATE ALTERNATIVE FARM BUSINESS PLANS

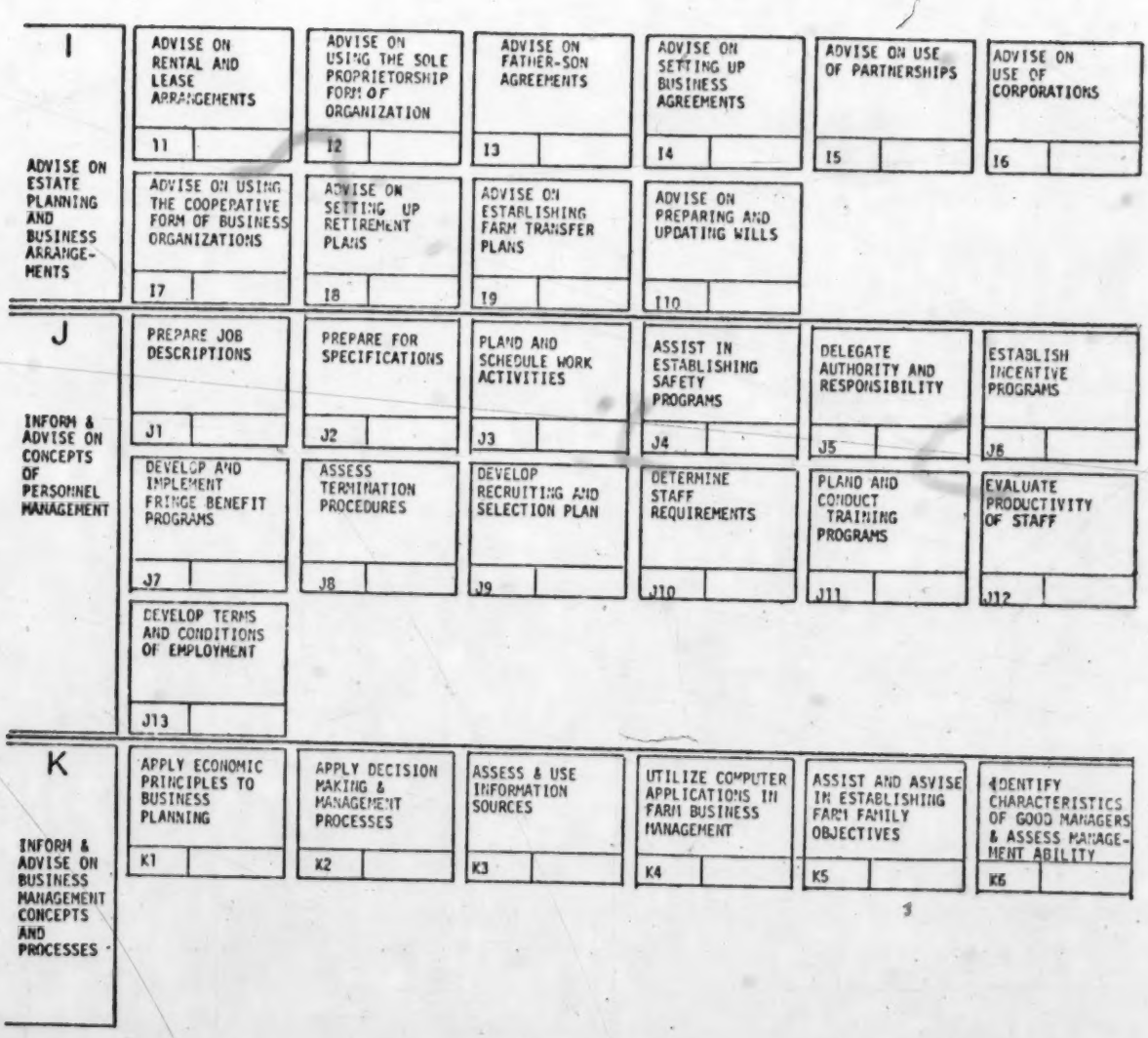
IDENTIFY AND EVALUATE AVAILABLE RESOURCES & MANAGEMENT ABILITY F1	ASSIST FARMER TO IDENTIFY OBJECTIVES F2	ANALYZE EFFECT OF FARM ASSISTANCE PROGRAMS F3	ADVISE ON PLANNING OF PURCHASED INPUTS F4	IDENTIFY ENTERPRISE &/OR PRODUCTION ALTERNATIVES & LIST CORRESPONDING PRACTICES F5	PREPARE & USE COMPLETE BUDGETS F6
PREPARE & USE PARTIAL BUDGETS F7	DETERMINE LEAST-COST PRODUCTION METHODS F8	ASSIST IN ANALYSIS OF INPUT-OUTPUT BUDGETS FOR PRODUCTION ALTERNATIVES F9	EVALUATE ALTERNATIVE GROWTH STRATEGIES F10	ASSIST IN PREPARATION OF COMPLETE FARM PLAN F11	

G — ADVISE ON MANAGEMENT IMPLICATIONS OF LAWS AND LEGISLATION AFFECTING FARMERS

ADVISE ON MANAGEMENT IMPLICATIONS OF LABOUR LAWS & LEGISLATION G1	ADVISE ON MANAGEMENT IMPLICATIONS OF HEALTH AND WELFARE LAWS AND LEGISLATION G2	ADVISE ON MANAGEMENT IMPLICATIONS OF LAWS AND LEGISLATION ON CONTRACTS G3	ADVISE ON MANAGEMENT IMPLICATIONS OF REAL ESTATE LAWS AND LEGISLATION G4	ADVISE ON MANAGEMENT IMPLICATIONS OF LIABILITY LAWS AND LEGISLATION G5	ADVISE ON MANAGEMENT IMPLICATIONS OF MARKETING LAWS AND LEGISLATION G6
ADVISE ON MANAGEMENT IMPLICATIONS OF PROVINCIAL TAX LAWS AND LEGISLATION G7	ADVISE ON MANAGEMENT IMPLICATIONS OF SUCCESSION DUTY & GIFT TAX LAWS AND LEGISLATION G9	ADVISE ON MANAGEMENT IMPLICATION OF INCOME TAX LAWS AND LEGISLATION G9	ADVISE ON MANAGEMENT IMPLICATIONS OF WILLS AND ESTATE LAWS AND LEGISLATION G10	ADVISE ON MANAGEMENT IMPLICATIONS OF ENVIRONMENTAL LAWS AND LEGISLATION G11	ADVISE ON MANAGEMENT IMPLICATIONS OF RELATED LAWS AND LEGISLATION G12

H — ADVISE ON MARKETING STRATEGY

ADVISE ON SELECTION OF MARKET OUTLETS FOR LIVESTOCK H1	ADVISE ON SELECTION OF MARKETING PRACTICES FOR LIVESTOCK H2	ADVISE ON SELECTION OF MARKET OUTLETS FOR LIVESTOCK PRODUCTS H3	ADVISE ON SELECTION OF MARKETING PRACTICES FOR LIVESTOCK PRODUCTS H4	ADVISE ON SELECTION OF MARKET OUTLETS FOR GRAINS H5	ADVISE ON SELECTION OF MARKETING PRACTICES FOR GRAINS H6
ADVISE ON SELECTION OF MARKET OUTLETS FOR OTHER CROPS H7	ADVISE ON SELECTION OF MARKETING PRACTICES FOR OTHER CROPS H8	ADVISE ON MARKET TRENDS AND OUTLOOK H9	ADVISE ON USE OF ALTERNATIVE MARKETING ORGANIZ*TIONS H10	ADVISE ON USE OF THE FUTURES MARKET H11	


I
ADVISE ON ESTATE PLANNING AND BUSINESS ARRANGE-MENTS
ADVISE ON RENTAL AND LEASE ARRANGEMENTS
I1
ADVISE ON USING THE SOLE PROPRIETORSHIP FORM OF ORGANIZATION
I2
ADVISE ON FATHER-SON AGREEMENTS
I3
ADVISE ON SETTING UP BUSINESS AGREEMENTS
I4
ADVISE ON USE OF PARTNERSHIPS
I5
ADVISE ON USE OF CORPORATIONS
I6
ADVISE ON USING THE COOPERATIVE FORM OF BUSINESS ORGANIZATIONS
I7
ADVISE ON SETTING UP RETIREMENT PLANS
I8
ADVISE ON ESTABLISHING FARM TRANSFER PLANS
I9
ADVISE ON PREPARING AND UPDATING WILLS
I10
J
INFORM & ADVISE ON CONCEPTS OF PERSONNEL MANAGEMENT
PREPARE JOB DESCRIPTIONS
J1
PREPARE FOR SPECIFICATIONS
J2
PLAND AND SCHEDULE WORK ACTIVITIES
J3
ASSIST IN ESTABLISHING SAFETY PROGRAMS
J4
DELEGATE AUTHORITY AND RESPONSIBILITY
J5
ESTABLISH INCENTIVE PROGRAMS
J6
DEVELOP AND IMPLEMENT FRINGE BENEFIT PROGRAMS
J7
ASSESS TERMINATION PROCEDURES
J8
DEVELOP RECRUITING AND SELECTION PLAN
J9
DETERMINE STAFF REQUIREMENTS
J10
PLAND AND CONDUCT TRAINING PROGRAMS
J11
EVALUATE PRODUCTIVITY OF STAFF
J12
DEVELOP TERMS AND CONDITIONS OF EMPLOYMENT
J13
K
INFORM & ADVISE ON BUSINESS MANAGEMENT CONCEPTS AND PROCESSES
APPLY ECONOMIC PRINCIPLES TO BUSINESS PLANNING
K1
APPLY DECISION MAKING & MANAGEMENT PROCESSES
K2
ASSESS & USE INFORMATION SOURCES
K3
UTILIZE COMPUTER APPLICATIONS IN FARM BUSINESS MANAGEMENT
K4
ASSIST AND ASVISE IN ESTABLISHING FARM FAMILY OBJECTIVES
K5
IDENTIFY CHARACTERISTICS OF GOOD MANAGERS & ASSESS MANAGE-MENT ABILITY
K6

APPENDIX B

List of Questions

Please study the enclosed DACUM chart for Farm Business Management Counselling before answering the following questions.

Name: _____

Employing Organization: _____

Position: _____

Years of General experience in Agricultural Extension. _____

1. In which of the following position classifications do you consider yourself to be in? (circle the letter)

A. General Agricultural Extension (ie., working in all aspects of Agricultural Extension of which Farm Business Management is only a part)

B. Farm Credit Advisor

C. Farm Business Management Counsellor (ie., working almost exclusively with farmers and groups of farmers in aspects of Farm Business Management Counselling as outlined in the attached Dacum chart)

D. Farm Business Management Resource Specialist (ie., working as a resource person in Farm Business Management for other staff in the organization)

E. Other (specify) _____

2. Approximately what percentage of your time is spent working with and advising farmers in aspects of Farm Business Management Counselling as outlined in the enclosed DACUM chart? _____

3. The objective here is to find out what skills are the most important to professionals working in Farm Business Management Counselling. Please use the enclosed Dacum chart for Farm Business Management Counselling.

a) According to the scale below rate each area of competence (larger lettered boxes on the left) as to its importance in performing the job of Farm Business Management Counselling.

b) In many cases there are some skills in each area of competence that may not be as important or are more important than the other skills. Unfortunately, it would take one person far too long to rate the importance of all 133 skills. Therefore, please rate only those skills included in the areas of competence_____. Other respondents will be asked to rate the skills in the other areas of competence. However, feel free to rate all the skills if you wish.

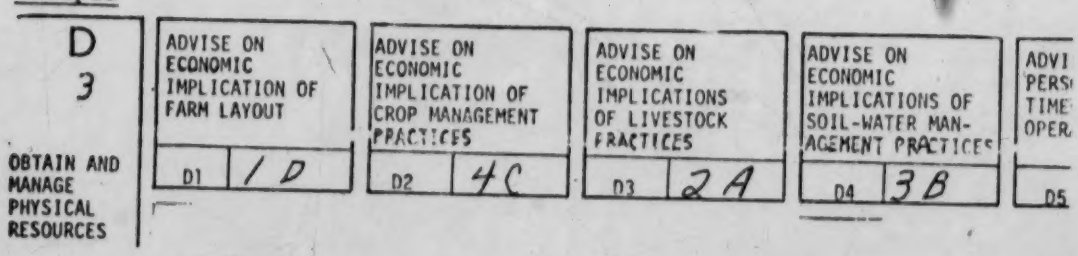
Rating scale for a and b

1. not important (used very infrequently)
2. limited importance (limited use or can refer to a specialist)
3. occasionally very important (used only occasionally but must have a working knowledge of it)
4. most important (used often and must have full competence in it)

c) Also please indicate what you feel was the most important source for acquiring competence in those skills rated.

A. university
B. inservice training programs
C. on the job
D. competency not acquired

Example



4. What is your educational background? (Please list the names of the institutions, degrees or diplomas held as well as majors and minors.)

A. Technical or Vocational School - _____

_____

B. Agricultural Vocational School - _____

_____

C. University Bachelor Degree - _____

_____

D. University Graduate Degree and Thesis Title - _____

_____

5. University Education (Please fill in Table 1 on the following page.)

a) Indicate the approximate percentage of time spent in your university bachelor and, if applicable, graduate program on each of the course types outlined in Table 1.

b) Rate (see scale below) the importance of these course types in performing the skills needed in Farm Business Management Counselling.

1. not important (used very infrequently)
2. limited importance (limited use or can refer to a specialist)
3. occasionally very important (used only occasionally but must have a working knowledge of it)
4. most important (used often and must have full competence in it)

Example

Table 1

Course Type	a) Time Spent	b) Importance
1. B. Agribusiness Management	5%	2

Table 1

Course Type	a) Time Spent	b) Importance
I. Agricultural Economics		
A. Quantitative Methods (statistics, econometrics, etc.)		
B. Agribusiness Management		
C. Farm Business Management and Production Economics		
D. Rural Sociology and Extension		
E. Natural Resource Economics		
F. Policy and Development		
G. Marketing and Trade		
2. Other related Social Sciences (Sociology, Psychology, etc.)		
3. General Economics and Business		
4. Agricultural Engineering		
5. Animal Science		
6. Entomology		
7. Plant Science		
8. Soil Science		
9. Other (specify)		

Total = 100 %

6. Inservice Training (Please fill in Table 2 on the following page.)

a) Indicate the approximate time spent (in days) on each of the areas of competence in Farm Business Management Counselling, as outlined in Table 2, at the various inservice training courses you have taken in the last 3 years.

b) Rate (see scale below) the importance of these inservice training courses you have taken in relation to the job of Farm Business Management Counselling.

1.not important (used very infrequently)

2.limited importance (limited use or can refer to a specialist)

3.occasionally very important (used only occasionally but must have a working knowledge of it)

4.most important (used often and must have full competence in it)

c) Indicate (see scale below) to what extent training is needed in each of these areas of Farm Business Management Counselling.

0. sufficient training already available

1. not needed (used very infrequently)

2. limited need (can get by without)

3. needed (would attend course if provided)

4. great need (definite lack of training in this area)

Example

Table 2

Area of Competence	a) Total Training Days	b) Importance	c) Training Needed
B. Advise on Financial Management	10½	4	3

Table 2

Area of Competence	a) Total Training Days	b) Importance	c) Training Needed
A. Communicate, Counsel & Interview			
B. Plan, Implement & Evaluate Farm Management Training & Extension Programs			
C. Assist in Establishing, Maintaining & Utilizing Farm Records			
D. Obtain & Manage Physical Resourses			
E. Advise on Financial Management			
F. Develop & Evaluate Alternative Farm Business Plans			
G. Advise on Management Implications of Laws & Legislation Affecting Farmers			
H. Advise on Marketing Strategy			
I. Advise on Estate Planning & Business Arrangements			
J. Inform & Advise on Concepts of Personnel Management			
K. Inform & Advise on Business Management Concepts & Processes			

7. Please elaborate on any other courses you have taken that assist you in your work in Farm Business Management Counselling but have not been covered so far in the questionnaire.

8. Do you have any suggestions for the future training of Farm Business Management Counsellors in Canada? If so, please elaborate.

APPENDIX C

Introduction

The prime objective of this study is to describe and analyze the adequacy of university undergraduate and graduate level training and governmental inservice training for professional farm business management (F.B.M.) counsellors in Canada, and to make recommendations for improvements. The study will investigate the F.B.M. skills being taught by the agricultural economics departments of the eight Canadian universities granting degrees in agriculture (U.B.C., U. of Alberta, U. of Saskatchewan, U. of Manitoba, U. of Guelph, Laval U., MacDonald College, and Nova Scotia Agricultural College) and at inservice training courses sponsored by the provincial Departments of Agriculture, the Farm Credit Corporation, Canfarm and the Small Farm Development Program. It will also question the different categories of professionals involved in aspects of F.B.M. counselling with the above government organizations about what skills are most important to them in carrying out their jobs. In addition to this information, these professionals will be asked to indicate how important the different types of educational courses and training programs are to the fulfilling of the requirements of their jobs. Finally, administrators of F.B.M. related extension programs will be asked what they think are the most important skills in F.B.M. counselling. The DACUM approach to curriculum, learning and evaluation in occupational training and more specifically, the DACUM chart for F.B.M. counselling designating the areas of competence and the specific skills needed in F.B.M. counselling will be used as a basis for the study and are explained below.

Definitions

DACUM - Developing A CurriculUM - This is an approach to the development of curricula combined with an evaluation process for occupational training programs.

> DACUM can be defined as a single-sheet profile that serves as both a curriculum plan and an evaluation instrument for occupational programs.
>
> It is graphic in nature, presenting definitions of the skills of an entire occupation on this single sheet of paper.
>
> It is an analysis of the occupation rather than a curriculum evolving from an analysis. The occupation is subdivided into General Areas of Competence. Each is then analyzed to identify each skill it contains. The result is independent specification of each of the skills (behavior) that collectively enable an individual to perform competently in the occupation. These skills are defined quite simply and are structured independently in small blocks on the chart. Each can serve as an independent goal for learning achievement.[1]

DACUM Chart for F.B.M. Counselling - The chart represents all the skills needed in all aspects of F.B.M. counselling excluding operational type skills; that is, those required to run an office etc. The chart includes eleven general areas of competence along with 133 corresponding skills in which the counsellor is expected to have a working proficiency or be able to suggest counselling sources. The chart was drawn up at Holland College, P.E.I. in August 1974 by the Chart Committee of the Extension

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1. R.E. Adams, DACUM: Approach to Curriculum, Learning, and Evaluation in Occupational Training. A Nova Scotia NewStart Report. (Ottawa: Canada NewStart Program, 1973), p 24

Education Sub-Committee of the Canadian Farm Management Committee.[2]

Farm Business Management Counselling - It is very difficult to come up with a definition of F.B.M. counselling with which everyone will agree. It is imperative, however, that those people asked to complete the enclosed questionnaire have a clear understanding of the definition of F.B.M. counselling as used in this study. With this in mind, the DACUM approach to curriculum, learning and evaluation in occupational training and the DACUM chart for F.B.M. counselling are used as a basis for the study.

Farm business management counselling consists of working with farmers and advising them of the many aspects of F.B.M. All the skills that could possibly be required for the job of counselling are listed in the accompaning DACUM chart for F.B.M. counselling. Therefore, any work done with farmers that fits into any of the skills (boxes) on the chart will be considered part of F.B.M. counselling in this study.

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2. The Chart Committee consisted of:
Dr. Phil Wright, University of Guelph;
Professor T.A. (Alf) Petersen, University of Alberta;
John Hickie, Saskatchewan Department of Agriculture;
Bruce McCorquodale, Ontario Ministry of Agriculture and Food;
R.H. (Bob) Simmermen, Leadership and Training Specialist, Alberta;
Alexander (Sandy) Lauder, Regional Farm Economist, Alberta;
Rollie Hayman, Farm Management Specialist, Nova Scotia;
Adrien Van Ekris, Representative Farmer, P.E.I.;
Eric Webster, Representative Farmer, Ontario;
Fred Mooney, Canfarm, Guelph;
Lawrence E. Coffin, Discussion Leader, Holland College, P.E.I.;
Ivan L. Corbridge, Coordinator, Farm Management Training Programs, S.F.D.P., Ottawa.

Professional Farm Business Management Counsellor - A professional F.B.M. counsellor in this study will be considered as any university graduate (at least the bachelor level) who spends all or part of his or her time on the job working with and advising farmers in F.B.M. and thus using the skills included in the DACUM chart for F.B.M. counselling.

Interpretation of Selected Skill Boxes and Areas of Competence

The purpose of this section is to interpret some of the more vaguely entitled skill boxes and areas of competence on the DACUM chart.

B.4 Conduct Needs Analysis - Appraise farm business management counselling needs of the farmers under your jurisdiction by preparing and studying farm business management statitics (eg. farm business analysis) and other related information.

B.5 Collect and Analyze Information - This is a summary heading for skills B.1, B.2, B.3, B.4, and B.6

B.6 Identify Needs Priorities - Applying the principle of opportunity cost to the needs analysis done in B.4; that is, selecting which farm business management extension needs are of the highest priority.

B.17 Identify and Utilize Regional Diffusion Process - Utilizing the diffusion process by recognizing the different types of adoptors and how best to communicate with them (eg., newspaper, T.V. etc.).

C.15 Prepare Cash Flow Statements - Preparing cash flow statements from historical (this year and before) records. Not to be confused with E.4 (Assist in Preparation of Cash Flow Projections) which is dealing with projected future cash flows.

D. Obtain and Manage Physical Resources - This area of competence may cause some confusion, because most of the skill boxes involve disciplines other than economics in the initial stages and therefore at that time are not the job of the farm business management counsellor. However, the skill boxes for the most part are quite clear; they state that the skill is to advise on the economic implications of the various aspects outlined in the area. Therefore the skills referred to here are those involving economics, not other disciplines.

D.7 Advise on Making Machinery Management Decisions - This involves disciplines other than economics, such as engineering and agronomy. However, the farm business management counsellor should be able to advise the farmer on machinery-labour combinations (D.6), replacement strategies, investment decisions, machinery maintenance scheduling, machinery sharing agreements, leasing and custom work.

D.9 Advise on Leasing and Rental Arrangements - Refers to advice on leasing and renting as a form of physical resource use and management whereas in I.1 (Advise on Rental and Lease Arrangements) it is referred to in the context of estate planning and business arrangements.

E.4 Assist in Preparation of Cash Flow Projections - See interpretation of C.15.

F.5 Identify Enteprise and/or Production Alternatives and List Corresponding Practices - Identifying the feasible enterprises and/or production alternatives available to the farmer in his own particular circumstances.

F.9 Assist in Analysis of Input-Output Budgets for Production Alternatives Analyzing in order to find out which is the best combination of feasible enterprises and/or production alternatives for a particular farmer.

H.1-8 Marketing Outlets - The different buyers of the products.

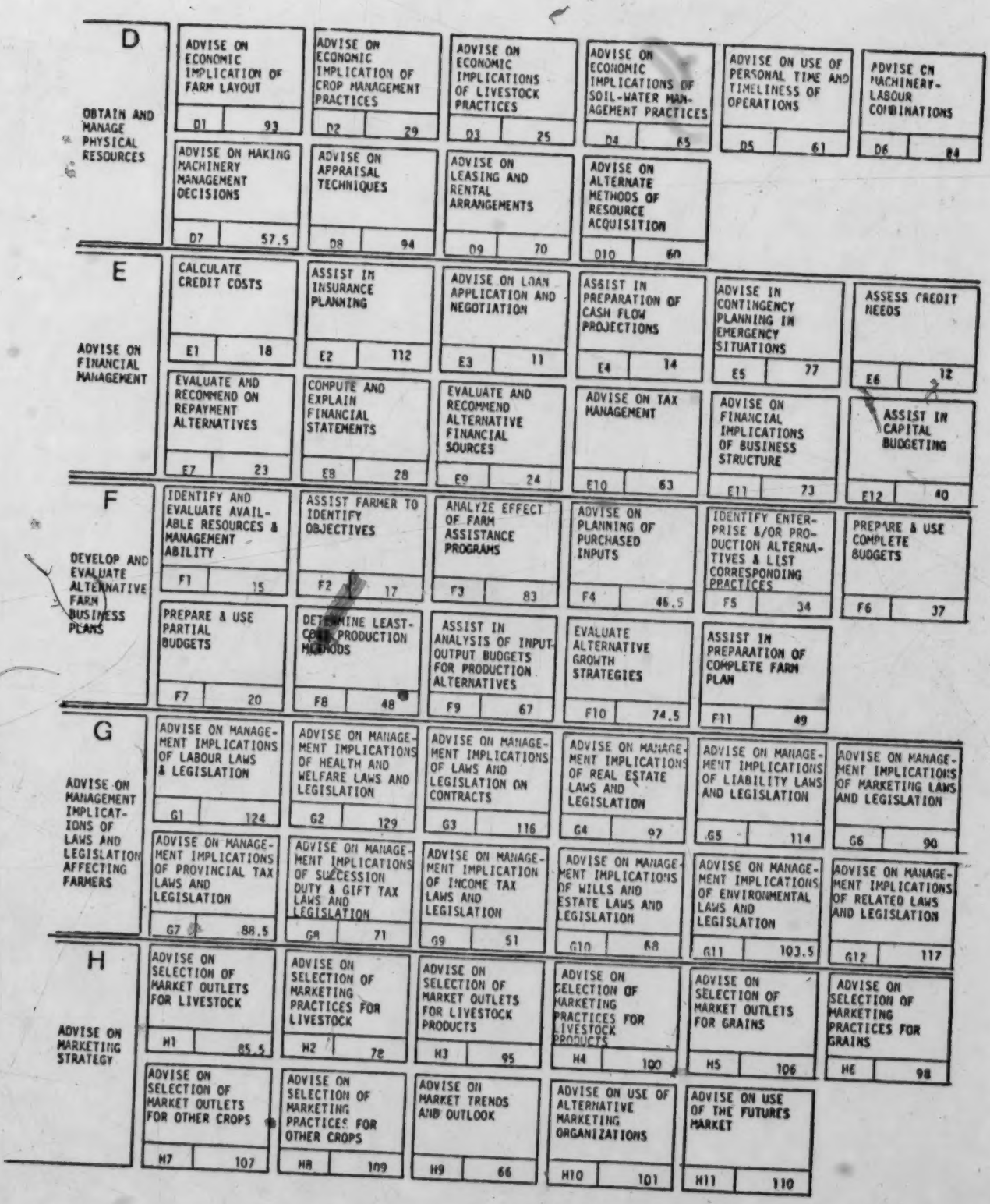
Marketing Practices - The different ways of marketing the products.

J. Inform and Advise on Concepts of Personnel Management - This area of competence is interpreted as meaning advising the farmer on how to manage his personnel. If you feel strong that this area should include your own office personnel as well, then please make a note on the DACUM chart when rating this area.

Appendix D

THE IMPORTANCE AND USE RANKINGS OF EACH FDH SKILL BY THE 183 RESPONDENTS WITH BACHELOR DEGREES

A	LISTEN A1 1	PREPARE BUSINESS CORRESPONDENCE, REPORTS AND BRIEFS A2 41	RECOGNIZE AND USE CONVERSATIONAL ETIQUETTE A3 27	PLAN, PREPARE AND PRESENT VERBAL INSTRUCTIONS A4 38	IDENTIFY BARRIERS AND BREAKDOWN IN COMMUNICATION A5 42	CREATE RECEPTIVE ATMOSPHERE A6 10
COMMUNICATE, COUNSEL AND INTERVIEW	ESTABLISH RAPPORT WITH CLIENTS A7 2	USE CONFERENCE LEADERSHIP SKILLS A8 87	CONDUCT INTERVIEW SESSIONS A9 36	SPEAK EFFECTIVELY A10 5	RECOGNIZE NEED FOR AND IMPLEMENT PERSONAL UPDATING PROGRAM A11 35	IDENTIFY NEEDS, CIRCUMSTANCES AND MOTIVATION OF CLIENTS A12 7
	RECOGNIZE AND IMPROVE UPON PERSONAL COMMUNICATION LIMITATIONS A13 16					
B	WORK WITH FARM ORGANIZATIONS B1 72	ASSESS LEADERSHIP STRUCTURE OF COMMUNITY B2 108	ANALYZE AND UTILIZE FARMER SOURCES OF INFORMATION B3 39	CONDUCT NEEDS ANALYSIS B4 80	COLLECT AND ANALYZE INFORMATION B5 50	IDENTIFY NEEDS PRIORITIES B6 33
PLAN, IMPLEMENT & EVALUATE FARM MANAGEMENT TRAINING AND EXTENSION PROGRAMS	CREATE EFFECTIVE PROGRAMS FOR IMPLEMENTING CHANGE B7 56	FORMULATE AND CARRY OUT PROGRAMS B8 46.5	IDENTIFY AND SELECT RESOURCES B9 54	PREPARE PROGRAM SCHEDULES B10 85.5	IDENTIFY, SELECT AND USE EVALUATION TECHNIQUES B11 81	ANALYZE EVALUATION RESULTS B12 79
	SELECT METHODS OF TRAINING B13 88.5	SELECT AND UTILIZE A/V AIDS PRESENTATIONS B14 92	UTILIZE GROUP PROCESS AND SOCIAL ACTION B15 103.5	IDENTIFY AND UTILIZE LEARNING PROCESSES B16 96	IDENTIFY AND UTILIZE REGIONAL DIFFUSION PROCESSES B17 102	
C	PREPARE AND MAINTAIN CLIMATIC RECORDS C1 132	PREPARE AND MAINTAIN FARM MACHINERY AND SERVICE RECORDS C2 122	PREPARE AND MAINTAIN LIVESTOCK RECORDS C3 69	PREPARE CROP PRODUCTION RECORDS C4 64	PREPARE AND MAINTAIN PAYROLL RECORDS C5 119	PREPARE AND MAINTAIN LABOUR USE RECORDS C6 123
ASSIST IN ESTABLISHING, MAINTAINING AND UTILIZING FARM RECORDS	SET UP AND MAINTAIN FILING SYSTEMS C7 62	PREPARE A LIST OF ASSETS & LIABILITIES C8 6	PREPARE INCOME STATEMENT C9 8	MAINTAIN RECORD OF INCOME AND EXPENSES C10 13	PREPARE AND MAINTAIN CREDIT RECORDS C11 21	PREPARE ENTERPRIZE COST AND RETURN RECORDS C12 31
	PREPARE INCOME TAX RETURNS C13 99	PREPARE NET WORTH STATEMENT C14 9	PREPARE CASH FLOW STATEMENTS C15 19	ANALYZE FARM RECORDS TO IDENTIFY STRENGTHS AND WEAKNESSES C16 4	UTILIZE AND APPLY FARM RECORDS IN BUSINESS DECISIONS C17 3	IDENTIFY AND SELECT ACCOUNTING SYSTEMS C18 44


D
OBTAIN AND MANAGE PHYSICAL RESOURCES
ADVISE ON ECONOMIC IMPLICATION OF FARM LAYOUT
D1 93
ADVISE ON ECONOMIC IMPLICATION OF CROP MANAGEMENT PRACTICES
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